BRIGHAM YOUNG UNIVERSITY

Annual Catalog Issue

1968-70

L. HOWARD CAMPBELL

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Brigham Young University
Bulletin

CATALOG OF COURSES

1968-69 — 1969-70

This catalog covers two complete academic years. Please keep it for reference throughout the 1968-69 and 1969-70 school years.

Published by

Brigham Young University

Provo, Utah

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1968

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1969

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	29	30	31						27	28	29	30			
APR.				1	2	3	4	OCT.					1	2	3
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	28	29	30						27	28	29	30	31		

University Calendar

Although as accurate as possible at the time of the printing of this catalog, the calendar is subject to change at the discretion of the University administration.

1968-69

Fall Semester, 1968

March 1 (Friday): Final date for incoming freshmen and transfer students to submit applications for scholarships.

April 30 (Tuesday): Final date for new freshmen to submit applications for Fall Semester, 1968-69.

July 31 (Wednesday): Final date for new transfer students, former BYU students, and graduate students to submit applications for Fall Semester, 1968-69.

September 12, 13 (Thursday, Friday): Utah Conference on Higher Education.

September 16, 17 (Monday, Tuesday): Preschool Faculty Conference.

September 16, 17, 18, 20, 21 (Monday, Tuesday, Wednesday, Friday, Saturday): New-student orientation.

September 19 (Thursday): Registration for new students.

September 20, 21 (Friday, Saturday): Registration.

September 23 (Monday): Class instruction begins.

October 4 (Friday): Last day on which late registration may occur for Fall Semester and for adding and dropping classes.

October 5 (Saturday): Junior English Proficiency Examination.

October 26 (Saturday): Homecoming.

November 15 (Friday): Midsemester registration for students released from missions and from active duty with the Armed Services since the close of late registration.

November 23 (Saturday): Junior English Proficiency Examination.

November 28, 29 (Thursday, Friday): Thanksgiving recess.

December 20 (Friday): Last day of classes before Christmas recess.

January 6 (Monday): Classes resume after Christmas recess.

January 20, 21 (Monday, Tuesday): End of formal class period for Fall Semester. Final examinations may not be given before January 22.

January 22, 23, 24, 25, 27, 28, 29, 30 (Wednesday, Thursday, Friday, Saturday, Monday, Tuesday, Wednesday, Thursday): Fall Semester examination period.

Spring Semester, 1969

January 20 (Monday): Final date for submitting applications for admission or readmission for Spring Semester, 1969.

January 30, 31, February 1 (Thursday, Friday, Saturday): New-student orientation.

February 3, 4 (Monday, Tuesday): Registration for all new and regular students.

February 5 (Wednesday): Class instruction begins.

February 15 (Saturday): Junior English Proficiency Examination.

February 19 (Wednesday): Last day on which late registration may occur for Spring Semester and for adding and dropping classes.

March 28 (Friday): Midsemester registration for students released from missions and from active duty with the Armed Services since the close of late registration.

April 4, 7, 8 (Friday, Monday, Tuesday): Spring vacation.

April 12 (Saturday): Junior English Proficiency Examination.

May 10 (Saturday): Y Day.

May 22, 23 (Thursday, Friday): End of formal class periods for Spring Semester. Final examinations may not be given before May 24.

May 24, 26, 27, 28, 29, 31, June 2, 3 (Saturday, Monday, Tuesday, Wednesday, Thursday, Saturday, Monday, Tuesday): Spring Semester final examination period.

May 30 (Friday): Memorial Day.

June 4 (Wednesday): Commencement exercises and college convocations.

Summer Session, 1969

May 31 (Saturday): Final date for submitting applications for admission or readmission for First and Second Terms, Summer Session, 1969.

June 9, 10, 11, 12, 13 (Monday, Tuesday, Wednesday, Thursday, Friday): Special workshops and conferences.

June 12, 13, 14 (Thursday, Friday, Saturday): New-student orientation.

June 16 (Monday): Registration.

June 17 (Tuesday): First Term begins.

June 28 (Saturday): Junior English Proficiency Examination.

July 4 (Friday): National holiday observed.

July 18 (Friday): First Term ends.

July 19 (Saturday): Second Term registration.

July 21 (Monday): Second Term begins.

July 24 (Thursday): State holiday observed.

July 26 (Saturday): Classes.

August 21 (Thursday): Second Term ends—commencement.

1969-70

Fall Semester, 1969

March 1 (Saturday): Final date for incoming freshmen and transfer students to submit applications for scholarships.

April 30 (Wednesday): Final date for new freshmen to submit application for Fall Semester, 1969-70.

July 31 (Thursday): Final date for new transfer students, former BYU students, and graduate students to submit applications for Fall Semester, 1969-70.

September 11, 12 (Thursday, Friday): Utah Conference on Higher Education.

September 15, 16 (Monday, Tuesday): Preschool Faculty Conference.

September 16, 17 (Tuesday, Wednesday): New-student orientation.

September 18 (Thursday): Registration for new students.

September 19, 20 (Friday, Saturday): Registration.

September 22 (Monday): Class instruction begins.

October 3 (Friday): Last day on which late registration may occur for Fall Semester and for adding and dropping classes.

October 4 (Saturday): Junior English Proficiency Examination.

November 1 (Saturday): Homecoming.

November 14 (Friday): Midsemester registration for students released from missions and from active duty with the Armed Services since the close of late registration.

November 22 (Saturday): Junior English Proficiency Examination.

November 27, 28 (Thursday, Friday): Thanksgiving recess.

December 19 (Friday): Last day of classes before Christmas recess.

January 5 (Monday): Classes resume after Christmas recess.

January 19, 20 (Monday, Tuesday): End of formal class period for Fall Semester. Final examinations may not be given before January 21.

January 21, 22, 23, 24, 26, 27, 28, 29 (Wednesday, Thursday, Friday, Saturday, Monday, Tuesday, Wednesday, Thursday): Fall Semester examination period.

Spring Semester, 1970

January 19 (Monday): Final date for submitting applications for admission or readmission for Spring Semester, 1970.

January 30 (Friday): New-student orientation.

February 2, 3 (Monday, Tuesday): Registration for all new and regular students.

February 4 (Wednesday): Class instruction begins.

February 14 (Saturday): Junior English Proficiency Examination.

February 18 (Wednesday): Last day on which late registration may occur for Spring Semester and for adding and dropping classes.

March 27 (Friday): Midsemester registration for students released from missions and from active duty with the Armed Services since the close of late registration.

April 3, 6, 7 (Friday, Monday, Tuesday): Spring vacation.

April 11 (Saturday): Junior English Proficiency Examination.

May 9 (Saturday): Y Day.

May 21, 22 (Thursday, Friday): End of formal class periods for Spring Semester. Final examinations may not be given before May 23.

May 23, 25, 26, 27, 28, 29, June 1, 2 (Saturday, Monday, Tuesday, Wednesday, Thursday, Friday, Monday, Tuesday): Spring Semester final examination period.

May 30 (Saturday): Memorial Day.

June 3 (Wednesday): Commencement exercises and college convocations.

Summer Session, 1970

May 30 (Saturday): Final date for submitting applications for admission or readmission for First and Second Terms, Summer Session, 1970.

June 8, 9, 10, 11, 12 (Monday, Tuesday, Wednesday, Thursday, Friday): Special workshops and conferences.

June 12 (Friday): New-student orientation.

June 15 (Monday): Registration.

June 16 (Tuesday): First Term begins.

June 27 (Saturday): Junior English Proficiency Examination.

July 4 (Saturday): National holiday observed.

July 17 (Friday): First Term ends.

July 18 (Saturday): Second Term registration.

July 20 (Monday): Second Term begins.

July 24 (Friday): State holiday observed.

August 21 (Friday): Second Term ends—commencement.

Student Academic Services

Office of Admissions and Records

The Office of Admissions and Records is a service office for all Brigham Young University students from the time of their first inquiry about the University until they graduate. This office is also a service agency for faculty members, parents, the University administration, and the various agencies which are eligible to receive information from the records of students. The total responsibility of the office is divided into the following seven functional areas under the general supervision of the dean of Admissions and Records: High School-Junior College Relations, Undergraduate Scholarships and Awards, Admissions, Admissions Counseling, Registration, Records, and Graduation.

Admissions Counseling

It is the desire of the University to be of service to all who seek admission to BYU, regardless of their admissibility. For this reason the Office of Admissions Counseling has been established to counsel not only with those applicants who are admissible to the University but also to offer guidance for those who may have a more satisfactory experience elsewhere. Of those students who are admissible, many desire counsel from someone prior to their attendance at BYU. Many of these students can be assisted directly through this office while others can be directed to some of the other functional areas throughout the University. Those students who may not be admissible may (1) be assisted in understanding what is needed to further qualify themselves for admission, or (2) be guided in developing some alternative educational experience. With the increasing number of applicants each year who desire to attend BYU and a limit on the number that can be accepted, it becomes increasingly important for those who may not be admitted to have their horizons expanded and be guided in choosing alternatives.

Admission

BYU Standards. Students who are accepted for admission to Brigham Young University are required to maintain ideals and standards in harmony with those of The Church of Jesus Christ of Latter-day Saints. High standards of honor, integrity, and morality; graciousness in personal behavior; application of Christian ideals in everyday living; and abstinence from tea, coffee, alcohol and tobacco are required of every student.

Applications for Admission or Readmission. Admission or readmission to the University is granted on the basis of an official application. Requests for application forms and other necessary information should be directed to the following offices:

Undergraduate Students—Admissions Office, B-166 ASB
Graduate Students—Office of Graduate Admissions, D-251 ASB
International Students—BYU International Students Office, A-245 ASB
American Indian Students—American Indian Education Department, Indian Education Center

Application Fee. A $10 nonrefundable application fee must accompany the admissions application. Please send the application fee in the form of a check or money order payable to Brigham Young University. The application and the fee must reach BYU by the admissions application deadline date for the semester or session for which the student is applying. This is separate and distinct from the $10 housing application deposit.

Social Security Number. Each student entering the University must have a social security number for identification on all student records. If a student does not have a social security number he should go to the nearest social security office or local post office and make application. International students will not have a social security number but will have an appropriate number assigned to them by the Admissions Office. The social security number must be filed with the Admissions Office before a student will be allowed to register for classes.

Deadlines for Applications. Application for admission or readmission and the necessary accompanying materials must reach the Admissions Office no later than the deadline dates indicated below. If the applicant is applying as a freshman, a copy of his high school transcript and scores from the American College Test should accompany the application. If the applicant is applying as a transfer student, a transcript of all previous college work should accompany the application. This should include all credit earned at an institute of religion.

Students who wish to enroll for	Must have submitted all admission materials by
Summer School First Term Second Term	May 31
Fall Semester	
New freshmen	April 30
Transfer, former, and graduate students	July 31
Spring Semester	January 20

American College Tests. Before being admitted to Brigham Young University, all entering freshmen and all transfer students with less than fifteen semester hours of credit must take the American College Tests. Students must take the tests sufficiently early for the results to reach the Admissions Office before the admissions deadline dates indicated above.

The tests, which cost $4.50, are administered at testing centers located in all of the states and many foreign countries. Following is a schedule of the registration and test dates:

Dates to Register for the ACT Test in 1967-68	**Dates to Take the ACT Test in 1967-68**
August 28 — September 20	October 21, 1967
October 2 — November 8	*December 9, 1967
November 20 — January 17	February 17, 1968
January 29 — April 10	*May 11, 1968
April 22 — July 3	August 3, 1968

Dates to Register for the ACT Test in 1968-69	**Dates to Take the ACT Test in 1968-69**
Dates are approximately the same as above.	October 19, 1968 *December 14, 1968 February 15, 1969 *May 10, 1969 August 2, 1969

* **These dates apply also to overseas testing.**

Students are urged to take the test late in their junior year or as early as possible during their senior year of high school. Information may be obtained from high school principals and counselors, from the BYU Office of Admissions and Records, or from the ACT Program, P.O. Box 168, Iowa City, Iowa 52240. **Students will not be admitted without these test results.** If it is impossible to take the test at regular American College Test Centers, upon request special arrangements can be made for students to take the test at BYU prior to registration. A fee in addition to the regular test fee of $4.50 will be required to help defray the costs of this special test appointment. The student's admission may be denied even at that late date if his combined grade-point average in basic subjects and his ACT scores are below the BYU admissions standard.

Transcripts. High school graduates entering college for the first time should have the high schools from which they graduated send a transcript of their high school work.

Students who have attended college should have each of the institutions attended send a copy of their transcript of college work. A transcript should be provided for **all** college-level work in which the student has been enrolled. High school transcripts are not required from students who have completed at least 15 hours of college work, but may be helpful if the college grades are low.

Health Information Form. In order that the University may provide proper medical care, the student who receives notice of his acceptance will be given a health form on which the condition of his health may be reported by a personal physician after examination. This questionnaire must be returned to the health center before the student's registration. The information given is not used by the Admissions Office and in no way influences the admissions decisions.

New Freshman Students. To be admitted to the University as a regularly matriculated student, an applicant must be a graduate of an approved high school and must have completed ten academic units, three of which must be English, and one of which must be algebra or geometry. The remaining six units may be from the following areas: English, mathematics, science, social science, foreign language.

Admission of new freshmen will be granted upon the basis of the high school academic record and ACT scores.

New freshmen desiring admission for Fall Semester are urged to submit their applications and take the American College Test as soon as possible after they begin their senior year of high school. They will then receive information from the University regarding their acceptance or the need for additional preparation.

A student who has not graduated from high school but who has sixteen units (Carnegie) of high school credit and the recommendation of his high school principal may be admitted if approved for entrance by the Admissions Committee.

Students nineteen years of age and over who have not completed high school, but who otherwise are eligible for admission, may register as regularly matriculated students after the successful completion of the high school level General Educational Development Test and the American College Test. These tests may be taken at Brigham Young University, at the testing divisions of most colleges and universities, at most armed forces educational centers, or at most high schools.

New Transfer Students. To be admitted to BYU, transfer students must have achieved an accumulative grade-point average of 2.25 (A=4.0, B=3.0, C=2.0, D=1.0, E=0) in their previous college work. They also must have a 2.25 grade-point average in their most recent college work. Applicants whose grades are deficient will have their records examined by the Admissions Committee. All transfer students should submit a transcript of **all** of their previous college work. This should include all credit earned at an institute of religion. Those transfer students with less than 15 semester hours of college credit must also submit their high school transcript along with the results of the American College Test.

New Students from Foreign Countries. To be admitted to the University a student who is not a U.S. citizen must present credentials corresponding to the requirements stated above under the headings "New Freshman Students" or "New Transfer Students." In addition, the student must obtain a clearance from the BYU foreign-student adviser before being accepted.

Former BYU Students. All former BYU students who have discontinued school for one semester or more must apply for readmission. Readmission applications are furnished by the Office of Admissions and Records upon request.

Continuing Students. Registration materials are prepared for all students registered for daytime classes at the University during the previous semester. Students who have been attending evening classes **only** must apply for admission or readmission in order to register for daytime classes, and must observe outlined deadline dates.

All Graduate Students. All students who have received a bachelor's degree (other than those working toward a second bachelor's degree) will be admitted to the University through the Graduate School Office. Graduate students are classified as degree or as nondegree seeking.

Inquiries on graduate admissions or graduate scholarships and fellowships should be addressed to the Graduate Dean, D-208 ASB, Brigham Young University, Provo, Utah 84601. Applicants for admission to the Graduate School will be held to the application deadline dates previously listed for undergraduate students. The Graduate Catalog will be sent, on request, from the Office of the Graduate Dean.

Summer School Students. Two separate programs are available to students who attend BYU Summer School.

1. Regular enrollment for students who meet BYU admissions standards.
2. Summer probation enrollment for students who have not met BYU admissions standards.

In addition to the offerings available through these two programs, there are special courses, workshops, clinics, etc., and noncredit courses which can be taken without being admitted to the University.

Students admitted on summer probation will be permitted to take up to 10 credit hours of summer classes. If they satisfactorily complete the program offered them by acquiring an accumulative grade-point average of C or better, they will then be permitted to register in the fall without reapplying for admission.

Students in categories one and two who attended Summer School either of the two previous years, and are eligible for continued study at the University, need not apply for readmission for Summer School. Registration materials are prepared for these students.

Notice of Acceptance. A permit to register will be mailed to all students accepted by the University. If, in the judgment of the committee, it appears best for the student that he not enroll at BYU, alternative courses of action will be suggested to help him prepare to enroll at BYU at a later time.

Tuition and Fees. The tuition and fees for the school year 1968-69 are as follows:

Per semester	$215
Total two semesters	$430

Non-LDS students registering at BYU pay an additional $135 per semester or $270 per two semesters. Approximately three-fourths of the cost of operating the University is paid from the tithes of the LDS Church. Therefore, students who are Church members, or their families, already have made a monetary contribution to the operation of the University. To equalize this burden somewhat, it is necessary to charge nonmembers a higher tuition.

Catalog. The general catalog containing the offerings of the entire University will be mailed to those interested if they will send $1.00 to BYU, University Mail Services, B-69 ASB, Provo, Utah 84601.

Student Employment. A student needing employment should contact the BYU Placement Center in person as soon as possible after arriving in Provo. Important in finding work are skills, class schedule, willingness to accept available work, and diligent searching. Preference is given those students with greatest financial need.

University Housing. All prospective BYU students who wish to live on campus should make application for housing on application forms available from the Office of Student Housing. A $10 housing application fee should be submitted with the application.

Housing assignments made through the Housing Office do not confirm a student's admissibility to the University.

Off-Campus Housing in Provo Community. Detailed information relative to housing accommodations in the community will be furnished by the Residential Housing Office upon request. All students living off-campus must live in University-approved student housing.

Educational Guidance. All students who apply to BYU are either admitted or are given direction and guidance regarding their educational plans. Written suggestions, offers for further testing, and offers for personal counseling are provided.

Where to Write for Information

Admissions—Admissions Office, B-162 ASB
Admissions Counseling—A-183 ASB
American Indians—Indian Education Center
Graduate Admissions—Office of Graduate Admissions, D-251 ASB
Graduation—Graduation Information, A-183 ASB
High School and Junior College Relations, B-176 ASB
Housing—Housing Office, C-141 ASB
Honors Program—Director of the Honors Program, 436 JRCL
Records—Records Office, B-180 ASB
Registration—Registration Office, A-153 ASB
Scholarships—Undergraduate-Scholarships Chairman, B-188 ASB
    Graduate-Fellowships and Awards Office, D-208 ASB
Selective Service—Veterans and Selective Service Office, A-229 ASB
Student Loans—Financial Aids Officer, D-151 ASB
Summer School—Director of Summer School, C-356 ASB
General Inquires—Division of University Relations, B-69 ASB

Registration

Registration Procedure. The University calendar on pages 5-7 of this catalog lists the dates for registration. The alphabetical listing of registration appointments is printed on the cover of the class schedule which may be obtained for each semester at the BYU Bookstore. Students are urged to register on the days listed for registration. A late fee is charged each student who does not complete his registration on the specified days.

Changes in Registration. Students should exercise great care in completing their initial registration. Making changes in registration results in inconvenience for the students and unnecessary costs for the University. However, when a change in registration becomes necessary, students must obtain approval and a change-in-registration card from their adviser, the approval and signature of each instructor involved, and the approval and signature of the dean of their college.

Changes in registration may be made without charge for the first three days of the change-in-registration period. Thereafter, a $5.00 fee will be charged for each change-in-registration card processed. (Complete change-in-registration procedures are described in the class schedule.)

Withdrawal from Classes. Any student withdrawing from individual classes must clear with his adviser, the instructor of the class, and the dean of the college in which he is registered. (Detailed withdrawal procedures are described in the class schedule.)

Withdrawal from Evening Classes. A student withdrawing from classes for which he has registered in the Evening Classes Office must do so by notifying that office and by completing the withdrawal forms. An Evening Classes student who does not properly withdraw will receive a failing grade.

Complete Withdrawal from the University. A student discontinuing his entire registration at the University is required to clear his termination through the office of the dean of his college and the office of the dean of students. A student withdrawing from the University after the third week must be doing passing work in order to discontinue without academic failure.

Limitation on Credit in One Semester. An undergraduate student in good standing may register for as many as 17 hours of credit in any one semester by following the regular registration procedure. In the case of a student who has high academic ability, the dean of a college may authorize the student to register for a maximum of 18 hours for the first semester in residence and a maximum of 19 hours for any succeeding semester. Any student who has completed 15 or more hours of college work and who has an accumulative grade-point average of 3.5 (or a 3.5 average in the semester previous to registration) may register, with the consent of his dean and the dean of Admissions and Records, for 21 hours. Classes taken for audit or by correspondence, and evening classes or off-campus courses constitute a part of the student's total registration. Any exceptions to the above rules must be presented to the dean of Admissions and Records for consideration.

Course Divisions. Courses of study are given numbers as follows:

Preparatory and remedial courses	1- 99
Lower-division courses	100-299
Upper-division courses	300-499
Graduate or advanced undergraduate courses	500-599
Graduate courses	600 and above

Records

Classification of Students. At the beginning of each semester, students are classified for that semester as follows:

Credit hours earned	Classification
0 to 31	freshman
32 to 62	sophomore
63 to 93	junior
94 and over	senior

Engineering students having more than 124 semester hours are classified as fifth-year professional students. Completion of the required courses in freshman composition is prerequisite to classification as a junior. A student who has met the entrance requirements but who registers for nine hours of work or less will be classified as a part-time student.

A regular student who has completed all requirements for the bachelor's degree is classed as a graduate student. A graduate student or a student holding a bachelor's degree from a four-year accredited institution may register at Brigham Young University as follows:

a. In the Graduate School under the regular requirements for an advanced degree.
b. In the Graduate School as a nondegree-seeking student.

Admission procedures to the Graduate School are indicated in the Graduate School Catalog and apply to those who have graduated from Brigham Young University as well as from other universities.

Credits. A student may earn credit which will be recognized by the University in the following ways:

a. Completing work in the regular courses offered by the institution.
b. Completing courses by correspondence, in evening classes, or in the off-campus centers. All such courses taken by a currently enrolled student must have the approval of the student's dean and will be considered part of his current semester load. Credit earned through classes which constitute unauthorized overload will not be allowed.
c. Completing work in an accredited college and then transferring the credit to Brigham Young University. Credit from other schools must be filed with the Office of Admissions and Records upon application for admission to the University.
d. Passing a satisfactory examination in any course offered by the University, providing the student has never been registered in the class either for credit or audit. The courses offered in the College of Religious Instruction are an exception to this rule. Such credit will be given only with the joint consent of the chairman of the department concerned and the dean of the college in which the student is registered. A fee of $7.50 per credit hour is charged for special examinations, provided the total fee for any one subject does not exceed $45.00.

By payment of an auditing fee a student may obtain permission to audit courses of instruction. Under no circumstances may credit be obtained by means of special examinations for courses which have been audited or in which the student has been enrolled.

Grading System

The present grading system uses the letters A, A—, B+, B, B—, C+, C, C—, D+, D, and D— to indicate that the student receives credit, and an E to indicate that no credit is allowed.

The "A" grade is given only to students whose intellectual capacity and actual academic achievement are of exceptional quality. Work of a quality somewhat higher than average but not of exceptional quality receives a "B." "C" indicates that the student has completed classroom work, outside assignments, and examinations in an average manner.

Students who fail to reach the average academic achievement, but who do work of a quality still acceptable to the University are given a "D" grade. A "D" grade draws credit even though the work done is not fully satisfactory. Students failing to achieve work of minimum university quality receive an "E" grade. This grade mark draws no credit.

If a student withdraws officially from a class during the first two weeks of a semester, the permanent record will not show a registration for that class.

If a student properly withdraws from a class between the second and tenth week, his record will be marked "W" if he is passing in the course and "WE" if he is failing the course.

If a student discontinues attending a class at any time during the semester without going through the official withdrawal procedures, he will receive a grade of "UW" (unofficial withdrawal). A "UW" has the same negative value as an "E" in computing a grade-point average.

Students withdrawing after the second week who cannot present a valid excuse for being absent from class prior to withdrawal are graded "UW" if they do not withdraw officially and "WE" if they withdraw officially.

The letter "I" (incomplete) is used to indicate that the work is not yet completed. It is given **only** when special arrangements for the completion of the specific work involved have been made between the teacher and the student. The "I" **never** is given when a student has failed or is failing the course. An "I" grade is regarded as an "E" in the Office of Admissions and Records and work must be completed within one year from the date the grade is given.

When a thesis or dissertation has been completed, one of the following marks may be given: (1) "E" for failure; (2) "P" when the thesis has been satisfactorily completed. The letter of "P" (passed) is also used in connection with the student teaching program of the College of Education of the University.

Once recorded in the Office of Admissions and Records, no final grade may be changed except to correct the record when an error in calculation has been made by the teacher, in posting by the Data Processing Department, by the Office of Admissions and Records, or by action of the Academic Regulations Committee. When such corrections need to be made, an official "Grade Change Authorization" form must be completed; signed by the teacher, the chairman of the department, and the dean of the college; and sent directly to the Office of Admissions and Records.

Semester grade reports are mailed to all students at the end of each semester if they leave a self-addressed, stamped envelope with the Records Office. It is also the policy of the University to send semester grade reports to the parents of all single freshman students under twenty-one years of age and all unmarried students who are on academic probation.

Grade-Point Values

A	4.0	C	2.0
A—	3.7	C—	1.7
B+	3.4	D+	1.4
B	3.0	D	1.0
B—	2.7	D—	.7
C+	2.4	E	.0

Repeating Classes. Classes may be repeated in the following ways:

a. Repeat at Brigham Young University courses taken at Brigham Young University.
b. Repeat at Brigham Young University courses taken at other institutions.
c. Repeat at other institutions courses taken at the same institution and have the credit transferred to Brigham Young University.

When a class has been repeated, the grade used in the calculation of the student's grade-point average is the grade earned the last time the repeated class was taken.

Degrees Offered

Associate Degrees. An associate degree is awarded by the University in the fields of agriculture, business, computer programming, engineering, genealogy, home service, industrial technology, library, nursing (R.N.), and photography.

Baccalaureate Degrees. The University confers the baccalaureate degrees of Bachelor of Engineering Science, Bachelor of Science, Bachelor of Arts, Bachelor of Music, and Bachelor of Fine Arts in the various academic colleges.

Bachelor of Arts and Bachelor of Science Degrees. Each department determines which type of bachelor's degree it gives on the basis of appropriateness for the area of study involved. Some departments are permitted to offer both degrees. Each candidate will receive the degree designated by the department. The following list indicates the degrees offered by the various departments and areas of study:

B.A. Degree

- Archaeology
- Asian Studies
- Chinese
- Communications
- Dramatic Arts
- English
- French
- German
- Greek
- History
- Humanities
- International Relations
- Latin
- Latin-American Studies
- Music
- Physical Education—Women
- Physics
- Political Science
- Portuguese
- Russian
- Russian Studies
- Spanish
- Speech

B.S. Degree

- Accounting
- Agricultural Economics
- Agricultural Education
- Agronomy
- Animal Science
- Anthropology
- Botany
- Building Construction Technology
- Business Education & Office Management
- Business Management
- Chemistry
- Design and Drafting Technology
- Food and Nutrition
- Geography
- Geology
- Health and Safety Education
- Homemaking Education
- Horticulture
- Housing and Home Management
- Child Development
- Industrial Arts Teacher Education
- Mathematics
- Microbiology
- Nursing
- Physical Education
- Physics
- Psychology
- Recreation Education
- Sociology
- Speech and Hearing
- Statistics
- Technical Teacher Education
- Tool and Manufacturing Technology
- Youth Leadership
- Zoology

B.A. or B.S. Degree

- Clothing and Textiles
- Economics
  - B.S. for economics majors in College of Business
  - B.A. for economics majors in College of Social Sciences
- Teacher Education

B.A. or B.F.A. Degree

- Art

Bachelor of Music Degree

- Music Education

Bachelor of Engineering Science Degrees

- Chemical Engineering Science
- Civil Engineering Science
- Electrical Engineering Science
- Geological Engineering Science
- Mechanical Engineering Science

Advanced Degrees. Requirements for master's and doctor's degrees conferred by the University are described in the Graduate School section of this catalog.

Doctor's degrees are awarded by the University in the fields of microbiology, botany, analytical-physical chemistry, biochemistry, inorganic chemistry, organic chemistry, physical chemistry, child development, family relationships, marriage counseling, economic geology, mineralogy and petrology, paleontology, stratigraphy and sedimentation, structural, field and dynamic geology, educational administration, educational psychology, curriculum and instruction, Bible and modern scripture, history of religion, religious education, history, French, German, Spanish, music, physics, clinical psychology, general psychology, sociology and anthropology, and zoology and entomology.

General Education Program

A candidate for a bachelor's degree at Brigham Young University must satisfy all of the general education requirements described below. Transfer students entering BYU from accredited colleges will have their transfer credit evaluated on the basis of BYU programs and will be notified in writing as to the general education requirements remaining to be completed. The University will accept all transfer credit that is a reasonable equivalent to BYU-approved courses.

Area Requirements.

American History and Government. The general education requirement in this area may be satisfied by completing the following course or combination of courses: History 170; History 120 and 121; History 121 and Political Science 110 or 210; Economics 274 and Political Science 110 or 210.

A student can arrange with the History Department to take an examination that, if passed, will satisfy the American history and government requirement.

Biological Science. A minimum of 6 semester hours must be completed from the approved courses listed below:

Microbiology 121	(3)	Introductory Microbiology
Microbiology 311	(2)	Sanitation and Public Health
Microbiology 321	(3)	General Microbiology
Microbiology 322	(1)	General Microbiology Laboratory
Microbiology 331	(5)	Microbiology

Botany 101	(3)	Plant Biology
Botany 105	(3)	Plant Kingdom
Botany 110	(3)	Plant Classification
Botany 205	(2)	Field Botany
Botany 276	(3)	Heredity
(either Botany 276 or Zoology 276, but not both may apply)		
Botany 376	(3)	Genetics
(either Botany 376 or Zoology 376, but not both may apply)		
Botany 450	(3)	Plant Ecology
Botany 460	(2)	Conservation of Natural Resources

Zoology 105	(3)	Animal Biology
Zoology 212	(4)	Invertebrate Zoology
Zoology 213	(4)	Vertebrate Zoology
Zoology 235	(3)	Insect Life
Zoology 261	(3)	Elementary Human Physiology
Zoology 262	(2)	Anatomy and Physiology Laboratory
Zoology 263	(1)	Elementary Physiology Laboratory
Zoology 276	(3)	Heredity
(either Botany 276 or Zoology 276, but not both may apply)		
Zoology 315	(3)	Natural History
Zoology 376	(3)	Genetics
(either Botany 376 or Zoology 376, but not both may apply)		
Zoology 378	(1)	Genetics Laboratory

Freshman English Composition and Literature. A student must earn 6 semester hours by completing General College English 105 and English 112, English 111 and 112 or English 115 and 116. Freshmen are assigned to the appropriate English courses on the basis of their high school English grades and their performance on the American College Test.

Health. This requirement may be satisfied by completing two semester hours of approved course work or by special examination arranged for with the Department of Health and Safety Education. Health 130 or Nursing 202 and 212 are the courses approved to fill the health requirement.

Humanities and Fine Arts. A student must complete a minimum of 6 semester hours selected from the approved courses described below.

Art 101	(2)	Introduction to Art
Art 108	(2)	General Art
Art 110	(2)	Design in Everyday Life
Art 301	(3)	Art History and Appreciation
Art 308	(2)	American Art
Art 403	(2)	Ancient and Primitive Art
Art 405	(2)	Medieval Art
Art 408	(2)	Contemporary Art

Communications 101	(2)	Introduction to Mass Communications

English 250	(3)	Introduction to Literature
English 252	(2)	Introduction to Poetry
English 253	(2)	Introduction to Drama
English 254	(2)	Introduction to Biography
English 260	(3)	Masterpieces of American Literature
English 270	(3)	Masterpieces of English Literature
English 282	(2)	Shakespeare
English 332	(3)	The English Novel from Defoe through Dickens
English 333	(3)	The Modern English Novel
English 335	(2)	The American Novel to Dreiser
English 336	(2)	The Modern American Novel
English 338	(3)	The European Novel
English 341	(2)	English Drama to 1642
English 342	(2)	Restoration and Eighteenth-Century Drama
English 343	(2)	Modern English and American Drama
English 350	(2)	The Bible as Literature
English 355, 356	(3 ea.)	World Classics
English 359	(2)	The Short Story
English 360	(4)	American Literature from the Beginnings to the Present
English 361	(4)	Early American Literature
English 362	(4)	Later Ninteenth-Century American Literature
English 364	(2)	The Literature of the American West
English 366	(2)	Modern Poetry
English 367	(2)	English and American Folk Ballads
English 370	(5)	English Literature II: from Donne through Eliot
English 371	(3)	English Literature to 1500: the Medieval Period
English 372	(4)	English Literature from 1500 to 1660: the Renaissance Period
English 373	(4)	English Literature from 1660 to 1780: the Classical Period
English 374	(4)	English Literature from 1780 to 1832: the Romantic Period
English 375	(4)	English Literature from 1832 to 1900: the Victorian Period
English 380	(5)	Twentieth-Century Literature
English 381	(3)	Chaucer
English 382	(3)	Shakespeare
English 383	(2)	Milton

Humanities 101	(3)	An Introduction to the Humanities
Humanities 201	(3)	The Arts in Western Culture: Age of Greece to Early Renaissance
Humanities 202	(3)	The Arts of Western Culture: Late Renaissance to the Modern Age

Music 101	(3)	Introduction to Music
Music 103	(2)	Survey of Music Literature
Music 484, 485	(3 ea.)	History of Music

Philosophy 380	(3)	Survey of Philosophy

Philosophy 381	(2)	Deductive Logic
Philosophy 382	(2)	Inductive Procedures
Philosophy 385	(2)	Ethics: Plato to Dewey
Philosophy 386	(2)	Introduction to Philosophy of Religion
Philosophy 388	(2)	Aesthetics
Philosophy 474	(2)	Types of Religious Philosophy
Philosophy 483	(2)	Problems of Knowledge

Speech and Dramatic Arts 102	(2)	Introduction to Public Speaking
Speech and Dramatic Arts 115	(2)	Introduction to the Theatre
Speech and Dramatic Arts 121	(3)	Voice, Diction, and Interpretation
Speech and Dramatic Arts 301	(2)	Art of Public Speaking

Chinese 443, 444	(3 ea.)	Modern Chinese Literature
Chinese 445	(3)	Chinese Civilization

Classical Civilization 341	(2)	Greek and Roman Mythology
Classical Civilization 441	(3)	Classical Literary Traditions I: Greek Literature from Homer to the Alexandrian Period
Classical Civilization 442	(3)	Classical Literary Traditions II: Roman Literature of the Republic and Early Roman Empire

French 440	(4)	Historical Survey of French Literature
French 441, 442	(3 ea.)	Survey of French Literature and Culture
French 445	(3)	Introduction to French Civilization

German 440	(4)	Survey of German Literature and Culture
German 441	(3)	German Literature from the Beginning to 1700
German 442	(3)	German Literature in the 18th Century
German 443	(3)	German Literature in the 19th Century
German 444	(3)	German Literature in the 20th Century
German 445	(3)	Cultural History of Germany

Greek 431, 432	(3 ea.)	Masterpieces of Greek Literature
Greek 441, 442	(3 ea.)	Survey of Greek Literature and Culture

Italian 441, 442	(3 ea.)	Survey of Italian Literature

Latin 441, 442	(3 ea.)	Survey of Latin Literature and Culture

Portuguese 431, 432	(3 ea.)	Survey of Brazilian Literature I & II
Portuguese 445	(3)	Iberian and Ibero-American Civilization

Russian 441, 442	(3 ea.)	Survey of Russian Literature
Russian 445	(3)	Cultural History of Russia

Spanish 351	(2)	Hispanic Civilizations
Spanish 441	(4)	Survey of Spanish Literature
Spanish 445	(3)	The Culture of the Hispanic World
Spanish 451	(4)	Survey of Hispanic-American Literature
Spanish 454	(3)	Hispanic-American Novel
Spanish 458	(3)	Hispanic-American Short Story
Spanish 470	(3)	The Narrative of the Golden Age
Spanish 485	(3)	Introduction to Contemporary Spanish Literature

Physical Education. A minimum of 2 semester hours, selected from any of the Physical Education 100-series courses, will satisfy the physical education requirement. One-half credit hour should be taken each semester of the freshman and sophomore year. Students expecting to complete this requirement with military-service credit or other University-approved programs should check with the Graduation Office, Abraham O. Smoot Building, A-183.

Physical Science. Six semester hours must be completed from the approved courses listed below:

Chemistry 100	(3)	Elementary College Chemistry
Chemistry 101	(4)	Introductory Chemistry

Chemistry 105, 106 (4 ea.) General College Chemistry
Chemistry 111, 112 (5 ea.) Principles of Chemistry
Chemistry 151 (5) Introductory Organic Chemistry (for family living, nursing, and related fields)

Geology 101 (2) Introduction to Geology
Geology 102 (1) Introduction to Geology Laboratory
Geology 103 (3) Life of the Past
Geology 111 (4) Physical Geology
Geology 112 (4) Historical Geology
Geology 306 (3) Land Forms and Their Origin

Physics 100 (3) Essentials of Physics
Physics 101 (3) Current Topics in Physics
Physics 105, 106 (3 ea.) Technical Physics
Physics 121, 122 (3 ea.) Principles of Physics
Physics 127 (3) Descriptive Astronomy
Physics 128 (1) Elementary Astronomy Laboratory
Physics 137 (3) Weather and Climate
Physics 167 (3) Descriptive Acoustics of Music and Speech
Physics 177 (3) Physics of Light and Photography
Physics 201, 202 (5 ea.) General College Physics
Physics 211, 213 (4 ea.) General Physics: Classical (designed primarily for physical science, chemistry and engineering majors)
Physics 212, 214 (1 ea.) General Physics Laboratory
Physics 300 (3) Philosophical Foundations of Modern Physics

Statistics 221 (3) Principles of Statistics

Religion. Two semester hours in religion are required for each full-time registration (10 semester hours or more) by an undergraduate student at BYU until a total of 16 semester hours in religion has been earned for a bachelor's degree or a total of 8 semester hours for an associate degree.

Part-time students are required to complete 1 semester hour in religion for each 8 hours carried at BYU.

Required and Accepted Courses. The graduating class of 1970, and all subsequent graduating classes, are required to complete Religion 121 and 122 (or 421 and 422 for returned missionaries and upper-division transfer students).

All religion classes in the 100 through 400 series may be taken to meet the religion requirement with the exception of Religion 371, which is for prospective seminary teachers only. Graduate courses (catalog numbers 500 and above) and philosophy courses do not satisfy the religion requirements.

Devotional credit may be taken at the rate of one-half credit hour per semester. Four hours of such credit may be used to fulfill the sixteen-hour requirement for students seeking a bachelor's degree, and two hours for students seeking an associate degree.

Interpretation of University Policy on General Education Religion Requirements. Freshman and Sophomore Registrations. No more than 10 hours can be accumulated in the freshman and sophomore years toward fulfilling the general education requirement in religion. A student must complete 6 hours during the junior and senior years. Any additional hours completed will count as elective credit toward graduation.

Transfer Credit from LDS Colleges and Institutes. Transferees from Ricks College, Church College of Hawaii, and LDS Institutes may not transfer to BYU more than 6 semester hours in religion for one year's (32 hrs.) work, 10 semester hours for two year's (64 hrs.) work, or 14 semester hours for three year's (96 hrs.) work. However, until the combined acceptable transfer religion credit and the BYU religion credit (including at least one religion class at BYU) total 16 hours for a bachelor's degree or 8 hours for an associate degree, two hours of religion credit must be taken at BYU for each semester in residence.

Institute credit will be appraised as follows: Credit will be accepted only if the institute director certifies that the course was taken for institute credit and was covered in accordance with college standards. If the transfer college credit and the institute credit combined exceed that permitted at BYU, the student must indicate to the Office of Admissions and Records the courses for which he desires to receive credit. (See "Limitations on Credit in One Semester," p. 13.)

Requirements for Second Baccalaureate Degree Candidates. Students who register at BYU for a baccalaureate degree, after having received one at **another** university, are required to take two hours of religion per semester.

Fifth-Year Bachelor Degree-Seeking Students (Engineers). Students seeking a fifth-year bachelor degree will not be required to take religion in their fifth year. They will, however, be held for the requirement up through the completion of the regular four-year program.

Part-Time Students. Part-time students must present 1 hour of religion credit for each 8 hours of collegiate work completed. The ratio of 1 hour for each 8 hours must be kept current at the end of every two-year period. For any term in which a student registers as a regular student (10 hours or more) he must take 2 hours of religion credit.

Summer School. Full-time undergraduate Summer School students (those carrying 10 hours or more) will be held for 2 hours of religion. Students carrying fewer than 10 hours are considered part-time students, and must submit 1 hour of religion for every 8 hours accumulated.

Definition of an Undergraduate. For the purpose of applying the above rules, a student is considered an undergraduate until he has received his undergraduate degree or has completed the requirements for graduation.

Students Required to Study Off Campus. If a student is required to study off campus as a part of his degree requirements, he is required to register for religion during that semester at an institute of religion or a BYU continuing education center unless one is not available.

Bible Credit from Non-LDS Colleges and Universities. Bible credit from accredited non-LDS universities and colleges **will not** satisfy the religion requirement. The transfer credit, however, will apply as elective credit toward the total hours required for graduation.

Credit Completed at Centers for Continuing Education. A student must complete 1 hour of credit in religion for every eight hours of academic credit completed at BYU centers for continuing education. No more than fourteen hours in religion earned at these centers may apply toward the total sixteen-hour requirement.

Social Science. Five semester hours must be completed from the approved courses described below:

Agricultural Economics 101	(3)	Principles of Agricultural Economics
Agricultural Economcis 112	(3)	Economics and Agriculture

Anthropology 101	(3)	General Enthnology
Anthropology 105	(3)	Introduction to Social Anthropology
Anthropology 111	(3)	Cultures of the World

Archaeology 200	(3)	Introduction to Archaeology
Archaeology 250	(4)	World Archaeological History

Asian Studies 101	(3)	Introduction to Asia

CDFR 210	(3)	Child Development
CDFR 360	(3)	Achieving Success in Marriage
CDFR 361	(3)	Family Relationships

Economics 101	(3)	Survey of Economics
Economics 111, 112	(3 ea.)	Introduction to Economic Principles and Problems
Economics 241	(3)	Comparative Economic Systems
Economics 274	(3)	Economic History of the United States
Economics 358	(3)	International Trade and Finance

Geography 101	(3)	Introduction to Geography
Geography 120	(3)	Geography and World Affairs
Geography 231	(3)	Economic Geography
Geography 441	(3)	Political Geography
Geography 450	(3)	North America
Geography 460	(3)	Europe

History 110	(3)	World Civilization I
History 111	(3)	World Civilization II
History 120	(3)	The United States to 1865
History 121	(3)	The United States since 1865
History 300	(2)	Early Oriental History
History 304	(3)	Greek History and Civilization
History 307	(3)	Roman History and Civilization
History 310	(3)	The Early Middle Ages
History 311	(3)	History of the Middle Ages
(either History 310 or 311, but not both may apply)		
History 312	(3)	Renaissance: Age of Transition
History 313	(3)	The Reformation: Age of Turmoil
History 323	(3)	Europe in the Twentieth Century
History 335	(3)	England
History 340	(3)	Asian Civilization
History 351	(3)	History of Latin America I
History 352	(3)	History of Latin America II
(either History 351 or 352, but not both may apply)		
History 379	(3)	Contemporary United States History

Political Science 105	(1)	Current Affairs
Political Science 110	(3)	American Government
Political Science 150	(3)	Foreign Governments and Politics
Political Science 170	(3)	Introduction to International Relations
Political Science 210	(3)	The American Political Systems
Political Science 250	(3)	Foreign and International Political Systems

Psychology 111	(3)	General Psychology
Psychology 320	(3)	Psychology of Childhood
Psychology 321	(3)	Psychology of Adolescence
(either Psychology 320 or 321, but not both may apply)		
Psychology 322	(2)	Psychology of Adult Life
Psychology 350	(3)	Introduction to Social Psychology

Recreation Education 337	(2)	Philosophy of Recreation

Sociology 111	(3)	Introductory Sociology
Sociology 112	(3)	Modern Social Problems
Sociology 125	(2)	Applied Sociology
Sociology 350	(3)	Introduction to Social Psychology
Sociology 389	(3)	Social Aspects of Mental Health

Other Requirements. A bachelor-degree candidate must select and complete one of the two options described below:

A. Math., Statistics, Logic, Science. A student can satisfy this requirement by completing a total of 6 semester hours selected from the approved courses. At least one course must be selected from an area other than the student's major department. The same course cannot satisfy the general education and the mathematics, statistics, logic, and science requirement.

MATHEMATICS

All college-level courses numbered 105 or higher
Accounting 232
Accounting 332

STATISTICS

Statistics 221
Statistics 241
Statistics 330
Statistics 336
Statistics 337
Statistics 432
Statistics 531
Psychology 370
Phys. Ed. 462
(Statistics courses in other departments with Math. 105 as a prerequisite will also count.)

LOGIC

Philosophy 381
Philosophy 382
Philosophy 473
Physics 300

SCIENCE

Microbiology-all courses
Botany 110, 276, 321, 331, 376, 440, 450
Zoology 230, 261, 276, 330, 363, 376, 451
Chemistry—all courses
Physics 105, 106, 201, and all numbers above 201
Geology 111, 112, 351, 352, 501
Psychology 374
Computer Sci. 331

B. Languages. Eight semester hours selected from the following approved courses will satisfy the language requirement. A student who has completed a high school language course or had other language experience should consult with language departments for examination and placement purposes. Successful completion of a 201 language class or one other advanced class will fulfill the foreign language requirement for graduation.

Arabic 102, 201
Chinese 102, 201
Finnish 102, 201
French 102, 201
German 102, 201
Greek 102, 201
Hebrew 102, 201
Italian 102, 201
Japanese 102, 201
Korean 102, 201
Latin 102, 201 or Latin 111 and 112
Norwegian 102, 201
Portuguese 102, 201
Russian 102, 201
Spanish 102, 201

Completion of the general education requirements outlined in the above areas will qualify a student for either the Bachelor of Science or the Bachelor of Arts degree as determined by the major department.

Graduation Requirements

Minimum Requirements. A candidate for a bachelor's degree must complete a minimum of 128 semester hours of credit. A student seeking a Bachelor of Engineering Science degree must complete a total of 154 semester hours of credit.

Upper-Division Requirements. A minimum of 40 semester hours of upper-division credit is required for a bachelor's degree.

Major Requirements. A student must complete at least 20 semester hours in his major department and must satisfy any additional departmental requirements. A minimum of 10 semester hours has to be earned on campus at BYU.

Minor Requirements. A minimum of 14 semester hours selected from courses approved by the department or departments offering the courses and by the major department chairman is needed to satisfy the minor requirement. Completion of a double major will fill the minor requirement provided the second major encompasses a minor area.

Residence Requirements. At least 30 semester hours of BYU residence credit is required for a bachelor's degree. A maximum of 10 semester hours earned at BYU centers for continuing education may be applied toward the 30-hour requirement. A student must register and be on campus during 2 semesters (need not be consecutive) or more to satisfy the residence requirement.

Second Bachelor-Degree Requirements. A student may qualify for a second bachelor's degree when the following requirements are satisfied: 1. BYU's general education requirements, 2. major requirements, 3. minor requirements, 4. residence requirements, 5. religion requirements, 6. other graduation requirements defined in the catalog for bachelor-degree candidates.

General Education Requirements. A candidate for a bachelor's degree must satisfy the following general education requirements:

Area Requirements	Semester Hours Required
American history and government	3
Biological science	6
English composition and literature	6
Health	2
Humanities and fine arts	6
Physical education	2
Physical science	6
*Religion (2 hours per semester in residence)	16
Social science	5

A student must also complete one of the two options described below:

A.	Mathematics, statistics, logic, science	6
B.	Foreign language	8 advanced credit hours

(See section titled "General Education Program" for additional information.)
*See section titled "Interpretation of University Policy" on religion requirements.

Grade-Point Average Requirement. A bachelor-degree-seeking student must obtain a 2.0 (C) cumulative grade-point average by the beginning of the semester in which he plans to graduate. Transfer students must have a 2.0 (C) grade-point average in their residence credit at BYU and in their cumulative grade-point average.

Correspondence Credit. A maximum of 24 semester hours may be applied toward completion of the 128 semester hour requirement.

"D" Grade Credit. Not more than 18 semester hours of "D" grade credit may be applied toward completion of the bachelor-degree requirements.

Deadlines for Transfer, Correspondence, and Incomplete Credit. All incomplete grades must be removed from a student's record and all transfer and correspondence credit must be on file in the Records Office at least 4 weeks prior to commencement.

Application for Graduation. A student who expects to qualify for a bachelor's degree must submit a completed application for graduation form and a $12 application fee to the Cashier's Office, Abraham O. Smoot Building, D-148, not later than December 15 of his senior year for spring commencement or February 15 for the summer commencement. Students are encouraged to apply for graduation as soon as they have completed 64 semester hours of credit and have passed the Junior English Proficiency examination. Application for graduation forms should be obtained from the major department.

Junior English Proficiency Examination. All students must pass the Junior English Proficiency examination to be eligible for a bachelor's degree. A student must take the examination during the first semester of his junior year (64 semester hours or more). The examination is scheduled for the second Saturday of each semester and midsemester, and the second Saturday of each summer term.

Foreign students who are planning to return to their native countries after graduation may take the foreign-student English Test in lieu of the Junior English Proficiency examination. The test is administered on the second Saturday of each semester, and students eligible to take the test must register for it at the International Office during the week preceding the examination.

Attendance at Commencement. A candidate for a bachelor's degree must attend the commencement and convocation exercises. Exceptions to this rule may be granted for reasons of extreme emergency by the dean of the college in which the student is majoring. A request to be officially excused must be presented in writing two weeks prior to commencement. Students not officially excused from commencement will not be awarded their degrees.

Adhering to University Standards. A student's graduation may be delayed or denied if he is found to be in violation of high standards of honor, integrity, and morality; graciousness in personal behavior; application of Christian ideals in everyday living; or of the Word of Wisdom of The Church of Jesus Christ of Latter-day Saints.

Change in Graduation Requirements. The University reserves the right to change the requirements for graduation, and a candidate will be required to comply with all changes pertaining to the uncompleted portion of his course.

Exception to Graduation Requirements. All students who graduate in the spring of 1969 and thereafter must satisfy the requirements described above. Students who have earned college credit from an accredited school prior to the fall of 1962 and who graduate prior to spring commencement 1969 may elect to graduate under the 124 credit-hour-requirement program. Eligible students choosing this option must notify the Graduation Office of their decision at the time they apply for graduation.

Recognition of Outstanding Scholarship

In acknowledgment of outstanding scholarship academic recognition is granted to certain bachelor-degree candidates. The announcement of such awards is made at the annual commencement exercises.

There are two designations in recognition of high scholarship: graduation "magna cum laude" and graduation "cum laude." These awards are made on the basis of excellence shown in work up to, but not including, the second semester of the senior year.

"Magna cum laude" is awarded those students who have earned at least forty-five hours of credit at Brigham Young University and obtained an overall grade-point average of 3.80 or higher. "Cum laude" is awarded those students who have earned at least forty-five hours of credit at Brigham Young University and obtained an overall grade-point average of 3.50 to 3.79.

The University will post and publish at the close of each semester of the regular school year the names of the students who have carried a minimum of 15 credit hours and earned a grade-point average of 3.5 or above in all classes. Those with grade-point averages of 3.8 and above will be given special recognition.

Office of School Relations

The Office of School Relations is responsible for admissions matters which bear upon the high schools and junior colleges from which the University draws its students. Its purpose is to render liaison assistance to administrators and guidance counselors in public and LDS Church-related schools.

High School-Junior College Visits. In cooperation with state organizations the University participates annually in high school and junior college advisement programs throughout the state of Utah and in selected areas in bordering states.

Admissions advisers or alumni often fill appointments which originate as invitations from high schools or junior colleges outside the geographical area to which full-time University personnel are regularly sent.

An exchange of correspondence with these students and counselors serves to answer questions and to aid them in the solution of problems arising from application for admission, scholarships, housing, and the Honors Program.

Campus Tours and Interviews. On the premise that a student's consideration of the University is made more realistic by a campus visit and interviews with admissions officers or faculty, this office coordinates these arrangements for groups of students or individuals. Such a request should be addressed to Office of School Relations, B-176 ASB, Brigham Young University, Provo, Utah 84601.

University Fees

The University reserves the right to change these figures without notice.

All students who register will be expected to pay tuition and fees prior to or at time of registration.

Approximately seventy percent of the cost of operating the University is paid from the tithes of the LDS Church. Therefore, students who are Church members, or their families, already have made a monetary contribution to the operation of the University. To equalize this burden somewhat it is necessary to charge nonmembers a higher tuition. Even this higher total payment, however, does not cover the total educational cost of nonmembers of the Church.

Tuition and General Fees

(Effective Fall Semester, 1968)

Full-time students (over 9 hours for undergraduate students; 9 hours or over for graduate students)

	First Semester	Second Semester	School Year
LDS Church Members	$215	$215	$430
Nonmembers	350	350	700
General laboratory and facilities fee (applicable to both members and nonmembers)	10	10	20

Part-time students (9 credit hours or less for undergraduate students; less than 9 credit hours for graduate students)

(The tuition and fees paid as a part-time student do not entitle one to health service, student activity privileges, physical education suit, or facility privileges.)

	LDS Church Members	Nonmembers
Minimum tuition and fees	$ 40.00	$ 70.00
3 credit hours	55.00	93.00
4 credit hours	70.00	119.00
5 credit hours	85.00	145.00
6 credit hours	100.00	171.00
7 credit hours	115.00	197.00
8 credit hours	130.00	223.00
9 credit hours	145.00	249.00

All part-time students enrolled in one or more physical education classes must pay an additional $5.00.

The charge for noncredit courses or for auditing courses is the same as for credit courses. Noncredit courses taken by part-time students will be assessed on the basis of hours involved in lecture classes. For example, three hours of lecture a week would be considered three semester hours and would be charged for accordingly. Therefore, if a student were taking 8 credit hours plus a noncredit class involving two or more lecture hours per week, he would be considered a full-time student and must register as a full-time student. For courses in which no lecture hours are involved—for example, doctoral dissertations—tuition and fees will be handled on an individual basis, to be resolved later.

A fraction of an hour is counted as a full hour for assessing fees.

Registration in Evening Classes. All daytime students will be required to pay an additional fee of $3 per credit hour (credit, noncredit, and audit) for all hours carried under the Evening Classes program. Failure to pay this fee on the day of registration or the day on which an Evening Class is later added will result in a $2.50 late-fee charge.

Late Registration Fee

Late registration fees will be assessed all regular and special students for failure to complete registration on scheduled dates. No exception is made regardless of reason for being late.

1. First five regular school days following the scheduled registration date	$ 5.00
2. After the fifth day following scheduled registration date	10.00

Late fees for special students will be assessed at 50 percent of the rate for regular students.

Any student whose check is dishonored by his bank will be charged a handling fee of $5.00. If the check was for tuition, there will be an additional charge of the late fee in effect at the time the check is redeemed.

Refunds—College Students

In the event of withdrawal by a student, a refund will be made on the basis of a charge of $10 ($5 for a part-time student) even though the student does not complete registration or attend school, plus a per-day charge of two percent of the total tuition and fees paid or payable for the semester. The days charged for will be the school days beginning with the first day of the semester in which classes were held following the date on which the student registered, to the day on which the student reported his withdrawal to the Office of the Dean of Students, both days inclusive.

Late fees are not refundable.

Any refund due a student because of withdrawal from school will be made only by check, through the mail, two weeks from the date on which the student reported his withdrawal and surrendered his receipt or activity card to the Office of the Dean of Students.

No refund will be granted to a student who is requested to withdraw for scholarship or other causes.

No refunds will be made directly to an unmarried student under twenty-one years of age unless the student has the written permission of his parents or legal guardian.

No refund will be made after August 31 of the school year in which payment was received by the University.

Miscellaneous General Fees and Fines

Graduation fee, bachelor's degree (only 50% refundable if degree is not obtained)	$ 12.00
Graduation fee, master's or doctor's degree (only 50% refundable if degree is not obtained)	20.00
Graduation fee, for rental of cap, gown and hood for commencement	

exercises. Fee not refundable unless order is cancelled ten days prior to the current commencement exercises for which order was taken.

Two-year terminal certificate	4.50
Bachelor's	4.50
Bachelor of Engineering Science (Hood included)	8.00
Master's (Hood included)	9.00
Doctor's (Hood included)	10.00

Late application for graduation (for those who apply after December 15 for June commencement and after February 15 for August commencement)	3.00
Graduate student service fee (for graduate students using University facilities without formal registration for University classes) per semester	20.00
General College two-year terminal certificate	6.00
Identification photo	.50
Change of registration fee (for each change slip presented after the first week of each semester)	5.00
Change of grade fee (unless the change is the responsibility of the University)	3.00
Examination, special equivalency, per credit hour (the maximum fee in any one subject shall not exceed $60)	10.00
Examination, repeat foreign language, for advanced degree	10.00
Duplicate activity card	1.00
Transcript fee ($1.00 for first copy on every order, plus $.50 for each additional copy)	1.00
Automobile registration and parking fee:	
One semester	5.00
Academic year	10.00
Traffic violation fines	Variable, according to violation
Thesis binding (4 copies)	11.00 to 13.00
Hold placed on credits for unpaid bill	1.00

Fees for Instruction in Music

Music 159p, 160p (30-minute lessons)	$ 55.00
Music 360p, 660p (45-minute lessons)	75.00

Refunds—Fees for Instructors in Music

Students who withdraw from registration for private instruction before the semester begins or during the first week of the semester will receive a refund of the total amount paid.

Students who withdraw after they have begun their private instruction will be charged 10 percent of the total fee, the full cost of each lesson taken or each lesson missed without notifying the teacher, and one-half the cost of the remaining lessons in the course.

Applications for refunds are made at C-550 Franklin S. Harris Fine Arts Center.

Fees for Departmental Facilities and Services

Art 256, 322, 342, 343, 356, 642, 674	$ 3.00
Art 122, 456, 458, 476, 622, 658, 676	5.00
Business Management 380 and 381	3.00
CDFR 322	4.50
CDFR 422	9.00
English 15 (remedial English for juniors)	15.00
Food and Nutrition 340 (menu planning—meal service)	5.00
Food and Nutrition 110, 310	4.00
Graduate Education 667, 670, 673	15.00
Health 10, 445	10.00
Homemaking Education 375, 377	2.00
Horticulture 112 (flower arrangement)	10.00
Housing and Home Management 370:	
Single students for one-half semester	70.00
Married students for one-fourth semester	35.00
(All students must pay a $5.00 nonrefundable deposit prior to registration, the balance of the fee to be paid at the time of registration.)	
Music 105, 107, 108 (piano)	5.00
Music 106 (group organ instruction)	10.00
Music 368, 370, 372 (woodwind, brass and string workshops)	5.00
Nursery School:	
Smith Family Living Center, with lunch	49.50
Smith Family Living Center, no meals	30.00
Ashton House, no meals	25.00
Nursing 212, 300 (fundamentals laboratory)	2.00
Physical Education 128 (Bowling)	10.00
Physical Education 166 (Canoeing)	7.00
Physical Education 195, 196 (Skiing)	15.00
Physical Education 449 (athletic conditioning and injuries)	6.00
Recreation Education 502 (camping)	10.00
Sociology 397	3.00
Teacher Education 449, 479 (8-10 credit hours)	45.00
Teacher Education 449, 479 (4 credit hours)	25.00
Teacher Education 449, 479 (2 credit hours)	15.00

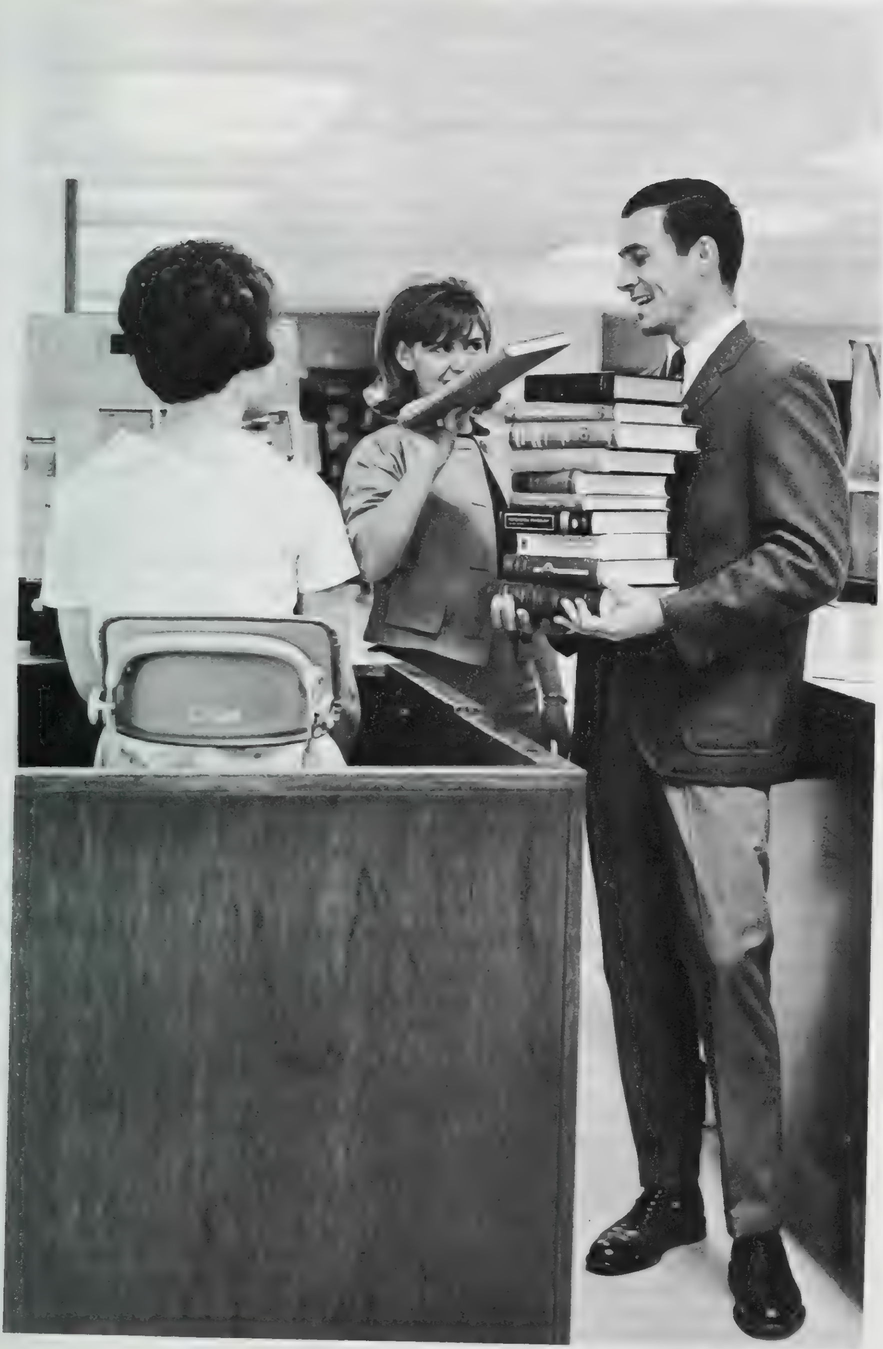
Teacher Education 449, 479 (Late fee assessed if application is completed after March 31 for Fall Semester and October 31 for Spring Semester, $10.) Students who notify the Student Teaching Office of cancellation of their request for a student teaching assignment later than one week prior to the first day of registration for the semester in which they had planned to do their student teaching will forfeit $20 of their student teaching fee. The $10 late fee is not refundable under any circumstances.

Rentals

Organ rental, one hour each day, per semester	$10.00
Harpsichord, clavichord rental, one hour each day, per semester	10.00
Harp rental, one hour each day, per semester	10.00
Piano rental, one hour each day, per semester	7.50
Each additional hour each day, per semester	6.00
Practice room without piano, one hour per day, per semester	4.50
Each additional hour each day, per semester	3.00
Recorder rental, per instrument, per semester, tenor and bass	3.00
Recorder rental, per instrument, per semester, alto	2.00
Recorder rental, per instrument, per semester, soprano	1.00
Locker rent (McKay Building and Eyring Science Center):	
1 semester	1.50
2 semesters	2.50
2 semesters and Summer Session	3.00
Key deposit	1.00
Replacement of lost key	1.00

Deposits

Physical education padlock deposit (Maximum refund is $2.50)	$ 3.00
Industrial education	1.00
Chemistry (Each laboratory class)	5.00
Aerospace studies (All AFROTC students. Fifty cents will be retained for flight insurance.)	14.00



Books, an essential part of a university education

Student Financial Assistance

Scholarships, Awards, and Grants

Scholarships and Awards. Scholarships and awards are part of the University's program to recognize those who achieve academically as well as to help those who need financial assistance. BYU provides scholarships to qualified applicants who are high school graduates, transfer students from other universities and colleges, and students enrolled as sophomores, juniors, and seniors.

Generally, scholarships are given to students with grade-point averages of 3.50 (on a 4.0 scale) or better, and awards are presented to students who have special talents and abilities but have grade-point averages below 3.50. However, no specific grade average or class standing is required to submit an application. Rather, a student is in competition with all students who apply for scholarships that particular year.

The University offers three types of four-year scholarships: (1) Honors scholarships which cover tuition and fees plus an allowance for books, (2) scholarships that cover full tuition and general fees, and (3) scholarships that cover tuition. Many scholarships provide full tuition and general fees, tuition, and part tuition for one year. Recipients who hold this type of scholarship and achieve academically may apply for other scholarships at the end of the academic year. Awards may include the payment of tuition and general fees, tuition only, or part tuition. Recipients who hold an award and achieve academically may apply for other scholarships for successive years.

In addition to the general scholarship program, the University also sponsors a program whereby students with special talents or abilities may apply for scholarship or award consideration in any department which offers an undergraduate major. These include

College of Biological and Agricultural Sciences: Agriculture, Microbiology, Botany, and Zoology.
College of Business: Accounting, Business Education, Business Management, Economics, Statistics.
College of Education: Elementary Education, Secondary Education.
College of Family Living: Child Development and Family Relationships, Clothing and Textiles, Food and Nutrition, Homemaking Education, Housing and Home Management.
College of Fine Arts and Communications: Art, Communications, Speech and Dramatic Arts, and Music.
College of Humanities: English, Humanities, Languages, Latin-American Studies, and Linguistics.
College of Industrial and Technical Education, Technical Institute, and Industrial Technology.
College of Nursing: Nursing.
College of Physical and Engineering Sciences: Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Chemistry, Geology, Mathematics, Physics, and Statistics.
College of Physical Education: Health and Safety Education, Intercollegiate Athletics, Physical Education, Recreation Education, Youth Leadership, Dance, Intramural Sports, and Prephysical Therapy.
College of Social Sciences: Anthropology and Archaeology, Asian Studies, Economics, Geography, History, International Relations, Political Science, Psychology, Russian Studies, and Sociology.

Only one application is required to be considered for all scholarship programs of the University.

All scholarships come under the jurisdiction of a central committee, the Undergraduate Scholarships and Awards Committee, which has the authority to promise or grant a scholarship or an award. However, official notification to recipients is given by the President of the University. A scholarship or award may be withdrawn at any time at the discretion of the committee if the recipient has failed to comply with the terms of the scholarship or award.

Assistance in obtaining American Indian scholarships and awards may be obtained by contacting the BYU Indian Education Center.

Graduate students are eligible for grants, fellowships, and scholarships, and should see the Graduate School Catalog for additional information.

College Scholarship Service. Brigham Young University has affiliated with the College Scholarship Service in order to make informed financial-aid decisions for those students who desire to be considered on the basis of academic ability and financial need. Brigham Young University desires to help bridge the gap between what a student's family can reasonably afford to spend on his education and what it will cost him to attend college. Brigham Young University's sponsoring organization, The Church of Jesus Christ of Latter-day Saints, has long recognized not only the value of education but also the high cost. The Church sought to remedy the situation in two ways: (1) by financing seventy percent of the general operation of the school and thus requiring the student to pay only thirty percent of the cost of a BYU education, and (2) by creating and developing a financial-aids program.

The College Scholarship Service aids the University in computing the student's need by use of a Parent's Confidential Statement which supplies an evaluation of the family's income and assets. By comparing these indications of financial strength with the total cost of attending the University, the College Scholarship Service estimates a student's financial need.

The role of the College Scholarship Service is to provide BYU with information on which to evaluate the student's need.

Grants-in-Aid

Through the Student Financial Aids Office the University awards a limited number of grants-in-aid to deserving students who have maintained a commendable academic record and who are in critical financial need. Grants-in-aid, as well as scholarships, are applied toward the payment of tuition and general fees.

Athletic Grants-in-Aid. The University also awards grants to selected athletes who qualify under the rules and regulations of the Western Athletic Conference. These grants may include part or all of the students' commonly accepted educational expenses as defined by the NCAA. A student athlete must meet either of the following recommendations:

a. If a freshman, he must have been rated academically in the upper two-thirds of his high school graduating class. For the first year such an award will be made for the entire school year.
b. If not a freshman, the student must be in good academic standing and not on probation. Such an award will be made on a semester basis.

Student Loans and Financial Aids

A student entering the University should have made financial arrangements to cover his school expenses and should have on hand enough funds to cover his obligations during at least the first semester. Limited funds are available to help students remain in school when financial emergencies have arisen and personal or family resources are not available.

Short-Term Loans. Short-term loans are available for emergency assistance for tuition, books, fees and other school expenses to full-time day students who have completed at least one quarter or one semester of successful work at BYU. These loans are made in small amounts for immediate requirements. Repayment is required as quickly as possible and within the current semester. Such loans are intended primarily for students who will have sufficient resources to carry them through the year but who may not have these resources available early enough to make the required payments for tuition, books, fees, and other school expenses.

Church Student Loan Fund. The Church of Jesus Christ of Latter-day Saints sponsors a long-term loan program to assist students to continue their educational programs at BYU without interruption. Through this program loans may be made to worthy full-time students who have financial need for tuition, books, fees, and other school expenses in excess of savings, part-time earnings, or parental support. Loans may be made each academic year not in excess of $200 for freshmen, $400 for sophomores, $500 for juniors, $500 for seniors, and $500 for graduates. The maximum cumulative loan to any student cannot exceed $2,100. The student may be permitted to delay making repayment until after he discontinues his full-time status at BYU.

Special Student-Aid Fund. Through the generosity of interested friends of BYU, contributions have been made and a limited fund is available to aid deserving students who are in critical need of small amounts of money and who are unable to make repayment.

Application. Information regarding financial aids and application forms is available in the Financial Aids Office. Before aid is granted, each applicant will be interviewed and careful consideration will be given to his needs.

Student Employment

The Personnel Department assists students in finding part-time employment, including help not only in placing them in positions on the University campus but also in finding part-time employment off campus and in finding work for board and room.

Students are encouraged not to attempt to earn their entire way through school. Such a program leaves little time for academic work (See scholarships). Furthermore, it is important to note that there is a limit on the number of hours which a student may work on campus.

Students needing employment are urged to register with the Personnel Department as soon as possible after they arrive in Provo and are available for work. Need weighs most heavily in deciding who will receive leads for jobs. Hours available and possession of skills required by employers also are very important. Inasmuch as the number of students seeking part-time work is very high, those whose need is great are requested to report regularly at the Personnel Department after filing their initial applications.

Students from foreign countries are required to obtain a work permit before they may accept employment. Such students may receive assistance from the foreign-student adviser in obtaining the necessary permit.

Estimated Cost of Attending BYU

The expense of a year's study at Brigham Young University is surprisingly reasonable. It will depend a great deal on how much a student can spend or wants to spend. Basic minimum costs for a two-semester school year are as follows:

	LDS Member	Nonmember
Tuition and fees	$ 430	$ 700
Books and supplies	125	125
Board and room	705	705
Personal expenses	150	150
	$1,410	$1,680

The average college expenses at public and private colleges for the nation are nearly $2,500. As a general rule private college costs are higher.

The estimate above does not provide for an automobile or clothing or transportation from distant points. The cost will obviously vary with married or single students and with young men and young women. For those doing their own housekeeping, either on or off campus, the cost of board and room can be materially reduced. Except for those who travel back and forth to their homes each day, an automobile is unnecessary and often a hindrance to proper study.

Student Housing

Learning to live harmoniously with other people under the right kind of living conditions plays a vital part in a college education. Students living in groups, working, studying, and enjoying recreation together gain much from each other. The conversations, good fellowship, and activities experienced in group living contribute to a person's whole development. Participation in democratic, self-governing living activities brings about a phase of education which can be gained in no other way.

The Office of Student Housing, established to assist students with their housing needs is located in C-141 Abraham O. Smoot Administration and General Services Building (ASB). All inquiries or administrative problems relating to housing needs should be referred to this office.

Campus Housing

Residence Hall Supervision

Campus housing is organized into five areas: Housing Administration, Deseret Towers, Helaman Halls, Apartment Living for Women, and Married-Students Housing. Each area is under the supervision of a person with professional training and experience for this type of work. Under these individuals, each residence hall is directed by a competent adult head resident who lives in the hall. (This may be a couple or a single woman.) Assisting each head resident are several senior residents—mature, advanced students—who live with the student groups. This gives each student a close contact with the residence hall staff. Each student is known personally by the staff and has someone immediately available to assist him with normal student problems. The residence hall staff carries out a residence hall program designed to provide each student with experiences in democratic self-government, development in acceptance of responsibilities that go with maturity and independence, and assistance in learning the art and science of human relationships in working and living with others. The staff assists the students to achieve a sense of belonging and to develop social competence through planned social and recreational programs. Head residents are available for general counseling, and they carry out the residence hall program in cooperation with other University academic services.

Applications

A student who plans to enroll at the University and live in a University residence hall should make inquiry to the Office of Student Housing about a year in advance. A housing application form will be sent to each inquiring student. A $10.00 application fee is required and should be enclosed with the completed application form when it is returned to the Office of Student Housing. A residence hall assignment and appropriate agreement forms are prepared on a basis of the date of receipt of the application form by the housing office and are mailed in the late spring and early summer.

Acceptance to University

The validating of any campus housing reservation is contingent upon the student's official acceptance and admission to the University. For admission to the University contact the Admissions Office, A-183 ASB.

Rental Agreements

A student planning to live in campus housing may expect to sign a rental agreement for the accommodations he will occupy. He should be prepared to live by the terms of this agreement once he has signed and returned it to the Office of Student Housing. Misunderstanding and financial loss can be avoided by a student if he will read and familiarize himself with the terms of the agreement before signing it.

Time of Arrival

Residence halls are not open to students prior to the announced opening date, which is usually the day before freshman orientation begins. The University does not advise students who are going to live in campus housing to arrive before that date. It is unwise for students with nothing to do to live in a hotel or motel room where there is no University supervision.

Apartment Living for Women

Housing for women is provided in 24 Heritage Halls. These are apartment-type buildings, and each apartment consists of a combination kitchen-dining-study room arrangement, three bedrooms and a bath. In addition, there are large living rooms, a recreation room, head resident apartment, and laundry and storage facilities in each building. Six girls occupy an apartment and live cooperatively, preparing their own meals. The apartments are completely furnished except for bedding, kitchen utensils, and dishes. The facilities are excellent and offer a high standard of living for college students. The approximate annual rate for these accommodations is $295. Food is purchased cooperatively by the residents of each apartment.

Help in the homemaking experiences of budgeting, buying, meal planning, and the selection, care and construction of clothing is available from specialists who are assigned to Heritage Halls. In addition, a specialist is available to assist students in planning social activities, developing recreational skills, and learning wise use of leisure time.

Each woman student desiring to live on campus should consider carefully the type of accommodations desired in view of her economic needs, time available for activities within her housing situation, and type of experience desired. Agreements are made for the academic year, and moving from one type of accommodation to another during the year is difficult to arrange.

Residence Halls for Men and Women

Board-and-room services for men and women are provided in Helaman Halls and Deseret Towers. Helaman Halls provide five halls for men and two for women; Deseret Towers provide three halls for men and two for women. Each hall contains student rooms, study rooms, reservation areas, central shower areas, adequate laundry and storage facilities, and a head resident apartment. These halls provide some of the best student living experiences offered on any university campus. The central buildings feature spacious cafeterias, dining rooms, snack bars, reception areas, offices, post offices, and vending facilities for the entire residence hall area. The approximate annual rate for a double room is $705 and a single room is $755.

Graduate Halls for Men and Women

Board-and-room services are provided for a limited number of single graduate men and women in Deseret Towers. These facilities are adequately equipped and provide for specialized needs of the graduate students. The approximate annual rate for these accommodations is $705 for a room with two occupants and $755 for a private room.

Apartments and Homes for Married Students

Family accommodations for 612 married couples and their children are provided in housing developments known as Wyview Village and Wymount Terrace. All units in married students' housing are assigned according to family sizes.

Wyview Village consists of 150 prefabricated homes purchased in 1956 from a federal government air base and moved to a site adjacent to the campus. There are 100 two-bedroom and 50 three-bedroom homes. The monthly rental rates are approximately $55.00 for the two-bedroom and $60.00 for the three-bedroom homes. In addition, each family pays its own electricity costs.

Wymount Terrace consists of 462 apartments and includes 24 residential buildings, an administration building, and three laundries. There are 108 one-bedroom units, 60 one-bedroom-study units, 264 two-bedroom units, and 30 three-bedroom units. The monthly rental rates approximate $69.50 for the one-bedroom units, $75.50 for the one-bedroom-study units, $79.50 for the two-bedroom units, and $89.50 for the three-bedroom units. In addition, each family pays for its own electricity. Each apartment has a balcony or porch overlooking the inner court play area. The units are furnished with a gas range, and electric refrigerator, and drapes for all windows.

This housing area fills a need of the Brigham Young University campus by providing attractive, modern, well-located, and competitively-priced housing units to further guarantee a pleasant school experience for its students.

Residential Housing

It is a policy at Brigham Young University that all students who live off-campus are required to reside in University-approved housing. The University has formulated minimum specifications which all rental units in the Provo area must meet in order to accommodate BYU students. During the school year all rental facilities listed with the Residential Housing Office are inspected and classified according to their physical condition and arrangement.

The Residential Housing Office maintains a complete listing service of all approved rental facilities in the Provo community. Listing cards are kept up-to-date, giving complete and detailed information about each rental unit.

Presently, residential living facilities consist of approximately 4,100 rental units which will accommodate over 12,000 students. These student living spaces are located in modern apartment houses and privately owned homes. The accommodations are comprised of apartments, sleeping rooms, and board and room services. The University requires the landlord to have supervisory personnel, whose responsibility it is to ascertain that proper living standards are maintained.

Rates

Rates for residential housing accommodations vary with the type of service provided; consequently only a general indication can be given here. Sleeping rooms rent from $20.00 to $30.00 per month. Apartment accommodations run from $20.00 to $40.00 per month per student. Board and room is available at the rate of $55.00 to $70.00 per month. Apartments for married students can be obtained at a rate of approximately $45.00 to $110.00 per month.

Student Personnel Services

The Student Personnel Services offices are responsible for the following areas of University life: academic standards, counseling service, counselor for women, foreign-student adviser, orientation, scheduling of University facilities, student health service, student organizations and social life, student publications, University standards, and veterans' affairs.

Dean of Students

The dean of students is the chief administrative officer of Student Personnel Services. He initiates and recommends to the President and the Administrative Council needed policies and procedures in student life. He administers the program and coordinates the agencies at work on student problems.

Assistant Dean of Students

The assistant dean of students works under the direction of the dean of students administering and coordinating the offices of Academic Standards, University Standards, Veteran's Affairs, International Students Office, and discontinuances from the University.

Academic Standards

Students at Brigham Young University are expected to attain the following minimum grade-point average for their particular class in school:

Freshmen (students who have accumulated 31 semester hours of credit or less) are required to maintain a 1.75 (C-) grade average in order to be considered in good academic standing.

Sophomores, juniors, and seniors are required to maintain a 2.00 (C) grade average on all work beyond the first 31 semester hours of credit.

A student receiving a degree from Brigham Young University must have earned a cumulative grade-point average of 2.00 on all college work as well as on BYU work only.

Grade-point averages are computed on the following basis: "A" equals 4 grade points; "B" equals 3; "C" equals 2; "D" equals 1; and "E," "WE," and "UW" each equals 0.

Categories of academic status are as follows:

Warning. A student whose BYU cumulative grade-point average is above 2.00 (C) but whose grade-point average for the last semester was below the minimum required (1.75 for freshmen and 2.00 thereafter) will receive academic warning.

Probation. A student whose BYU record does not meet the minimum requirement and whose record shows a shortage of grade points will be placed on academic probation. If a student is on academic probation, he may be subject to academic suspension at the end of any semester in which he fails to decrease his deficiency of grade points. Students who are on academic probation are expected to attend all classes for which they are registered and to meet every class period unless extenuating circumstances exist.

Suspension. A probationary student carrying a full load will be suspended from the University if his cumulative record at BYU shows a shortage of grade points from that required (1.75 for the first 31 semester hours and 2.00 for all remaining hours), and he has not made a four grade-point improvement during his current semester.

A student, whether on probation or not, will be subject to suspension if the Academic Standards Committee at any time determines that he is deficient in his academic achievements.

When a student is academically suspended from the University, the Academic Standards Committee may designate the fields in which his preparatory work must be taken in order for him to be readmitted.

Readmission. A student who has been suspended from BYU for academic deficiencies may qualify for readmission by complying with one of the following plans:

1. He may complete ten semester credit hours of home study or correspondence work with a 2.5 grade average or above in each course.
2. He may complete 15 credit hours or more taken all at one time at another institution of higher learning while earning a 2.5 grade average or above.
3. He may demonstrate to the Academic Standards Committee, during a personal interview when at all feasible,
   a. That he has had equivalent preparatory work or activity of an academic nature since being suspended from BYU, which may substitute for one of the two above-mentioned alternatives.
   b. That there were extenuating circumstances, such as major illness or serious accident, that prevented him from an equal opportunity with other students to compete academically.

A student who has only partially completed one of the plans for readmission may appeal to the Academic Standards Committee for readmission (i.e., a student who has completed six hours of home study). A decision by the committee to readmit or to deny readmission to a student is based upon the student's past record, test scores, and academic activities since being suspended. Special consideration is made for students who have been placed on academic suspension and then fulfilled a full-time mission for the Church.

Students who have been suspended academically a second time are denied further enrollment unless there were extenuating circumstances leading to the academic dismissal.

Honor Code

At Brigham Young University, **honor** has traditionally been understood as voluntarily living in accordance with the principles of The Church of Jesus Christ of Latter-day Saints. This is the standard of Brigham Young University.

The Church sponsors BYU for the principal purpose of providing for its members and other interested persons an opportunity to obtain a university education in an atmosphere consistent with Church ideals, principles, and goals. We believe in being an ensign of proper conduct to the entire world. **Acceptance of admission at BYU is therefore a voluntary commitment to uphold Church standards whether on or off campus, during all periods of enrollment.**

Evolving directly and immediately from this commitment is the responsibility to familiarize oneself with the standards to which he is committed. Conformity to eternal principles is a prerequisite for promised blessings.

Those who are enrolled at BYU are expected to maintain high standards of honor, integrity, and morality and graciousness in personal behavior, and to apply Christian ideals in everyday living, including the following specifically mentioned requirements:

1. To obey the laws of nation, state, and community and to respect duly appointed authority.
2. To maintain honesty and academic integrity in the preparation of all scholastic work, whether inside or outside the classroom.
3. To be honest, truthful, and forthright in all relations with others, and never to covet or take the property of others.

4. To observe the Word of Wisdom, which prohibits the use of alcoholic beverages, tobacco in any form, coffee, and tea.
5. To refrain from the possession, dispensing, and/or use of amphetamines, barbiturates, hallucinogenic drugs, psychedelic drugs, and narcotics, except as they may be prescribed by a licensed, practicing physician.
6. To accept and live the high moral standards of the Church, including preserving one's virtue and sexual purity.
7. To take appropriate action when a violation of the Honor Code is observed.

Any pronouncement of disciplinary measures made by the President of the University becomes a part of these regulations. Violations may make the offender liable to suspension or expulsion from the University.

Tutoring Service

Brigham Young University provides through General College a tutoring service which is available to all BYU students who may need help beyond their regular classroom instruction.

This office provides opportunity for students to make contact with qualified tutors. Tutors are students who have demonstrated success and competence in the courses they intend to tutor and who have been cleared by their departments to perform this service. For more detailed information about this program contact the Tutoring Service, A-202 JKB.

Counseling Center

The director of counseling has the primary responsibility in administering Counseling Center programs, which include research and training as well as services to students. He also makes recommendations regarding policy and procedures in student counseling at the University.

The primary function of the Counseling Center is to help typical students make realistic decisions regarding their college careers. All entering students are encouraged to make an appointment with a counselor so that they may obtain his professional assistance. The Counseling Center provides services which include: (1) counseling—educational, vocational, and other personal problems; (2) testing; (3) occupational information. The Counseling Center also cooperates closely with those who supervise the study and reading skills program and the University tutoring program.

Counseling. It is the policy of the Brigham Young University Counseling Center to counsel with students who can be helped in a relatively short period of time (about one semester). It is not the intent to engage in long-term and/or intensive psychotherapy, but rather to promote the adjustment of students within the University setting. A primary goal of counseling is to help maturing students accept responsibility for their own behavior.

Staff members of the Counseling Center are professionally trained in counseling psychology and related disciplines. Such training enables them to offer professional assistance with problems ranging from the selection of a major and a vocation to rather intense emotional disturbance. Students utilizing the service can be assured of reliable professional assistance and confidentiality.

Testing Services. Tests of achievement, ability, interest, and adjustment are given to all students who request them through a counselor. The data from these tests are used as a basis for counseling in educational, occupational, and personal problems. The Testing Service provides psychological test data for the use of counselors and faculty advisers, placement tests for various academic groups at the University, and assistance in the preparation, administration, and scoring of subject-matter tests as requested by various departments in the University.

Occupational Information Services. A comprehensive, current collection of essential occupational and educational information is maintained in the Counseling Center library. Current catalogs of the major universities and technical schools are also on file. These materials are available to all students seeking information about particular educational and vocational opportunities or information about employment in general.

Veterans' Service

All veterans should have their military experience evaluated for credit by applying to the Office of Admissions and Records.

War Orphans Education Program (P. L. 634). War orphans must bring a certificate of eligibility restricted to BYU before entering school under the War Orphans Education Program. This may be obtained by making application at the nearest Veterans' Administration Regional Office.

For further information concerning any educational benefits program for veterans, either currently existing or as it may become available, write to Veterans' Coordinator, Smoot Bldg., Brigham Young University, Provo, Utah 84601.

Veterans' Readjustment Benefit Act of 1966

For information concerning educational benefits available to those who can qualify under the Veterans' Readjustment Benefit Act of 1966 write to Veterans' Coordinator, Smoot Bldg., Brigham Young University, Provo, Utah 84601.

Counselor for Women

The counselor for women is a member of the Student Personnel Services staff. She also works with the coordinator of student activities as adviser to student organizations. She is available throughout each day to assist students in solving personal and vocational problems.

Foreign-Student Adviser

Services of the foreign-student adviser are available to all students from countries outside of the United States. Alien students coming to the University must report first to his office, where they are expected to clear with him. This includes all types of visas.

American Indian Students

Students from Indian tribes in North, Central, and South America are urged to contact the American Indian Education Department for assistance.

Religious Opportunities

Brigham Young University students have excellent opportunities for participation in religious activities. Among the means available are the following:

Brigham Young University Stakes. The Church is organized into a number of stakes. Each stake has several wards, with each ward having 200 to 300 members. The stakes and wards are organized specifically to provide students maximum opportunity for active participation in the program of the Church. Spiritual growth and the development of a strong testimony are goals fostered by the stake and ward organizations, whose programs are closely integrated at all levels with those of the University.

All single students living away from home establish their membership records in one of the wards of the stakes. Married students not living in University housing may attend the University ward or the ward in which they reside in the city. Membership records of students remain in the BYU stakes until they terminate their schooling at the Y.

Devotional Assemblies. Devotional assemblies, held each Tuesday, enable students to hear messages of spiritual power and depth from carefully chosen Church leaders including many General Authorities of The Church of Jesus Christ of Latter-day Saints.

Student Health Service

The Howard S. McDonald Student Health Center accommodates the health services, comprised of an out-patient clinic and in-patient unit for cases requiring bed care. The center functions 24 hours daily, 7 days a week, and is available to any regularly enrolled full-time student whose fees include these services for the semester in which he is registered. Summer students are included. Medical care for all eligible students is limited to the facilities and personnel in the health center.

The following services are provided without extra charge:

1. Consultation with general physicians and specialists, by appointment, in the health center during regular clinic hours, 8:30 a.m. to 4:30 p.m. This includes a specialty clinic in orthopedics, general surgery, gynecology, internal medicine, chiropody, and ear, nose, and throat.
2. First-aid treatment at any time.
3. Immunization as required for small pox, diphtheria, and tetanus.
4. Seven days of bed care in any one semester in the health center, as recommended by a health center physician, after which a minimum charge of $10.00 per day is made.
5. Within the limits of its personnel and facilities and at the discretion of the director, the treatment of chronic disease suffered by students.

The following services require an additional charge and are supplied to the student at special rates:

1. Meals while a patient is in the center.
2. Drugs on prescription of a physician.
3. Special diagnostic laboratory tests.
4. Special immunizations, i.e., poliomyelitis, influenza, etc.
5. X-rays for a nominal fee.
6. After-hour calls made by a physician in the clinic. The student pays $5.00 minimum for each call plus emergency-room charge.
7. Rental of crutches or other equipment.
8. Immediate notification of parents or guardian by phone by the health center when a student is taken ill and requires hospitalization.
9. Physical therapy.

Services not available are these:

1. Major surgery or off-campus hospitalization or medical care.
2. Dental service.
3. Obstetric service.
4. Eye refractions, glasses, prostheses, hearing aids, etc.

In the instance where physical examinations are required for participation in certain courses or activities, the student is responsible for providing the necessary physical examination prior to the time that he registers for the course. Such examination must be obtained by the individual student.

Student Health and Accident Insurance Program

To complement the services of the Student Health Center a supplemental insurance program is offered to all full-time students. This voluntary program is fully endorsed by the University and provides for a wide range of medical services at minimal costs. Students not otherwise protected by a health insurance plan are urged to accept this excellent plan specifically designed for our students.

Information regarding the student health and accident insurance program, along with information regarding insurance for dependents of married students, may be obtained from the health center.

Student Organizations and Social Life

Wilkinson Center serves as the hub of student activities on the campus. The program is organized to offer maximum opportunity for training in leadership and self-government and to provide a well-balanced program of individual and group development. Numerous student organizations have been set up to effectively realize such an objective. All student organizations on the campus conduct their affairs in accordance with a basic philosophy designed "to provide for a broad program of social, cultural, and recreational opportunities in which students are encouraged to participate." Membership is open to students who qualify and remain qualified according to the regulations set up by each organization. All students are urged to become affiliated with some group and thereby derive the benefits that only group experiences can bring. In order to coordinate organizational activity, to eliminate duplication of effort, and to lend continuity from year to year, supervision of student organizations is provided by the dean of students through the staff of Wilkinson Center.

Associated Students. Associated Students, an organization composed of all students who attend Brigham Young University, is presided over by officers elected by the students. It seeks to develop interest on the part of every student in those activities which contribute to a more democratic Y spirit and to provide opportunities for all students to participate in a well-rounded program of out-of-class activities. However, no student is allowed to participate in out-of-class activity if he is on disciplinary probation or carrying less than a ten-hour academic class load. Through this organization, student traditions are kept alive. All inter-class and intercollegiate activities are fostered under its management, and through it the students publish the "Daily Universe," the student directory, and the "Banyan."

Associated Men. All men students registered are members of Associated Men, designed to promote specific interests of Y men and to foster a wholesome atmosphere on the campus.

Associated Women. Associated Women, an organization comprising all women registered in the University, aids and fosters all women's activities. The organization, assisted by a faculty adviser, is a member of the Western Division of the National Organization of Associated Women Students.

Class Organizations. Members of the four classes and the Graduate School are organized to develop common interests and class spirit as each class proceeds through the University and into the Alumni Association. Meetings of the classes are held periodically, with a limited number of social functions planned by class officers.

Executive Council. The Executive Council consists of the ASBYU president, vice-presidents of social activities, student relations, athletics, culture, academics, finance, and other members as appointed by the student body president.

Inter-Organization Council. The Inter-Organization Council is an organization composed of representatives from student organizations to help govern organizational activities.

Honor Council. The Honor Council functions as a counseling body with subcommittees to promote the honor system which is subscribed to and supported by all students of Brigham Young University.

Geographical Organizations. Geographical clubs are organized to further social enjoyment and acquaintance among students from the same localities. They are particularly helpful to students during the early semesters of school, before these students have found their way into the other social activities of the campus. Such clubs also are helpful in maintaining a close bond of interest between the student and his home.

Professional and Departmental Organizations. The University encourages organizations which bring together persons of similar scholastic and professional interests and render their work more pleasurable and profitable. Each group fosters the activities of the department to which it is allied. Eligibility requirements are those of departmental affiliation and general scholarship as determined by the individual organizations. Fees are minimal. Each organization has a faculty sponsor.

Service Organizations. Several organizations, both for men and women, exist primarily to render service to the University. Eligibility requirements are established by each organization, and each has a faculty sponsor.

Student Publications

Three student-edited publications are sponsored to give students an opportunity to provide published works for the student body and the University. A full-time adviser of student publications helps students to develop their talents in addition to their classroom training.

Daily Newspaper. The "Daily Universe" is published daily during the regular semesters of the school year; the "Summer Universe" is published twice weekly during Summer School. More than 60 students staff the editorial, advertising, reporting, photographic, and business positions necessary to publish the paper.

Yearbook. The "Banyan," named for an oriental tree which symbolizes widening friendships found on campus, is the students' photographic record of each year. Valuable training in writing, editing, photography, art, and publishing is gained by the 50 members of the staff necessary to publish a 480-page book.

Orientation

The orientation program is designed to assist the student to have an adequate personal, social, and academic adjustment to Brigham Young University by identifying for him the framework of the University within which he must function.

In order to achieve this objective the orientation program focuses on the following areas:

a. Helping the student feel that he belongs; that he is a member of an institution interested in him as an individual and in his reaction to his total college environment religiously, socially, and academically.

b. Helping the student to learn more about himself, his goals, and his reasons for wanting a college education; also, assisting him in making relationships with his fellow students satisfactory.

c. Helping the student to become receptive to his learning experience; using small discussion groups to help students develop healthy attitudes toward tools of learning and academic courses.

d. Giving the student information concerning registration procedures; arranging meetings with college deans and faculty advisers as an important aspect of the orientation program.

Special Academic Programs

Summer School

Brigham Young University offers two five-week terms of credit courses during the summer. In Summer School more than one thousand University courses are offered by practically all undergraduate colleges and the Graduate School to students wishing to begin, continue, complete, or enrich their formal education.

All facilities of the University are available during the summer terms. Credit and noncredit workshops, seminars, conferences, and institutes are offered during the summer. A summer convocation is held at the end of Summer School in August.

To supplement the regular faculty outstanding educators and recognized authorities in various fields are at BYU to teach classes and add to the academic offerings. In addition to the regular scholastic program a rich program of lectures, musicals, plays, etc., provides a wide variety of culture. Devotional and forum assemblies are held each Tuesday and Thursday morning, with General Authorities of the Church and outstanding authorities in various academic fields as the speakers.

Attending school during the summer has become popular because students can gain valuable college credits and at the same time enjoy the vacation extras which are offered because of the location of the University in the heart of scenic America. A Summer School bulletin is printed annually and is distributed upon request to the Summer School Office, C-356 ASB, Brigham Young University, Provo, Utah 84601.

Honors Program

Richard D. Poll, Associate Director, 436 JRCL

The Honors Program seeks to assist students with unusual promise to achieve the maximum benefit from their university experience. Among the specific opportunities and challenges which are offered to superior students are the following:

1. Flexibility in programming insofar as course prerequisites, load limits, and general requirements are concerned.
2. Close association with stimulating teachers and capable students in small sections of many general education courses.
3. An interdisciplinary approach which encourages broader, integrated learning.
4. Independent research and creative activity in the fields of primary academic interest.
5. Rewarding extracurricular association with teachers and other students in the program.

In general, the Honors Program hopes to enrich rather than shorten the superior student's academic experience. Special emphasis is placed on honors work in general education. Every semester about forty honors sections in general education are offered, in which, because of the small size of the class, the instructor can give personal direction to each student.

Admission

Students seeking admission to the Honors Program may obtain application forms and instructions from the office of the associate director. Since the number entering the program each year is limited, early application is important.

Prospective freshmen should have applications and supporting papers in the hands of the director at least five months prior to the opening of their first collegiate term; only in exceptional cases can applications filed during the summer be considered for fall registration.

Those applying must show unmistakable evidence of academic promise on the basis of tests, grades, and recommendations. Special consideration is given to those who include scores on National Merit, College Board, ACT, or similar tests as part of the application. While most applicants are prospective freshmen, a student may enter the program at any time prior to the first semester of his junior year.

Scholarships

While the majority of participants in the program hold academic awards of one kind or another, thirteen honors scholarships are available each year to especially well-qualified applicants. These pay for tuition and fees and are renewable for four years. To be considered, a student must file an application to enter the Honors Program along with a general application for scholarship aid.

Registration

Registration for honors students will follow the established University procedure each semester with the following exceptions:

1. Honors students register during the first day of registration.
2. They obtain class cards for honors sections from the director of the program rather than from the departments involved.

Advisement

Each student in the Honors Program is assigned to a faculty adviser prior to his first semester's registration. If he has selected a major field, the adviser will be in that or a closely related field; however, it is not necessary to designate a major on entering the program, and changing the major after admission is permissible.

It is the student's responsibility to meet with his adviser prior to or in connection with each registration and as frequently on other occasions as his academic or other needs require.

Course Criteria

The following criteria have been established for honors courses whose primary function is to satisfy the **general education requirements** of the University:

1. General education for nonmajors rather than accelerated coverage for majors or minors.
2. No specialized prerequisites beyond admission to the Honors Program.
3. Admission restricted to students in the Honors Program except that other students with high academic records may be admitted with the written permission of the instructor if space is available.
4. Differentiation from nonhonors courses primarily in organization and method rather than in gross work load required of the student.
5. Grading so that work of comparable quality receives the same grade in honors as in corresponding nonhonors classes.

The following criteria have been established for honors courses whose primary function is to satisfy **departmental requirements:**

1. Accelerated coverage or more extensive coverage for majors, minors, or others with a special interest in the subject.
2. Admission by prerequisites or departmental screening.
3. Grading so that work of comparable quality receives the same grade in honors as in corresponding nonhonors classes.

It being recognized that uniformity of standards is very difficult to obtain in a program involving several dozen departments and teachers, students in honors sections are encouraged to discuss with their teachers what may appear to be deviations from the above criteria and to bring what seem to be particularly serious problems to the attention of the directors.

Additional information regarding honors work at BYU is available in a brochure which may be obtained by writing to Honors Program, 436 JRCL, Brigham Young University, Provo, Utah 84601.

Institute of Government Service

The Institute of Government Service offers graduate studies leading to the Master of Science degree in the fields of public administration (state and local government and national government) and the Master of Arts degree in international administration. The aim of the program is to provide training for those students who wish to prepare for service in local, state, federal, or international governmental activities, international trade, or who plan further advanced graduate work in public administration. The program is administered by the director of the Institute of Government Service. Program policy is formulated by the director and an advisory committee composed of representatives of the Departments of Political Science, History, Sociology, Psychology, Economics, Geography, English, and languages.

For information concerning course outline refer to Graduate School Catalog.

Prelegal Course

There is no single prescribed prelaw program. A student may major in any one of several fields as basic preparation for law school. The prime requisite of a successful lawyer is a well-disciplined mind. He must be capable of embracing complex situations—identifying subtle distinctions and appraising arguments. He also must be able to weigh opposing considerations and be capable of sustained effort over long periods of time. To produce such a person, the college schedule should include courses intended to expand the mental powers of a student to the utmost and to bring about precision of thought.

The following important advice given by a leading law school may well be noted by prelegal students:

"Few ideas are more fallacious or harmful than the notion that it is possible to dawdle through high school and college and then make the adjustment to higher standards promptly upon entering the professional school. Essential habits of concentration and effective methods of study must be acquired and developed during the prelegal years."

In addition to the courses in general education prescribed by the University, it is suggested that a satisfactory prelegal course might be selected from the following fields: English, political science, history, economics, accounting, psychology, speech, sociology, and mathematics.

Because of the growing tendency of law schools either to recommend or demand that the entering student have a B.A. or B.S. degree, the prelegal student should plan his freshman and sophomore programs so that he may continue working to obtain a bachelor's degree.

Forums and Lyceums

Since its earliest years Brigham Young University has been bringing to its students and the community distinguished men and women in arts and letters. Forum assemblies held each Thursday morning feature speakers and artists who can offer students a better understanding of our contemporary civilization. The lyceums are evening programs of great cultural value. During the 1966 and 1967 Summer Sessions and the 1966-67 and 1967-68 regular school year the following were scheduled for the forum and lyceum series:

Forums

Marcus Bach	World religion
Pearl Buck	Novelist
Billy Casper	One of nation's top golfers
Madame Chennault	Authority on Asiatic culture
Arthur C. Clarke	Top-ranking science writer
Roger Conklin	Marine expert
Monica Dickens	Lecturer on Charles Dickens
Hon. Tran Van Dinh	Saigon Post correspondent
Rev. Frederick Fowler	Presbyterian fundamentalist
Dr. John Gillespie	Head, Massachusetts College System
Dr. Ballentine Henley	President, College of Medicine, UCLA
Hubert Humphrey	Vice-President of the U.S.
Dr. Walter Judd	Foreign affairs expert
Marvin Kalb	CBS Soviet affairs specialist
Dr. Noah Langdale, Jr.	President, Georgia State College
Robert E. Lee	American playwright
Rabbi Monroe Levens	Synagogue—San Diego
Dr. Charles Malik	Former president of U.N. Gen. Assy.
George Mardikian	Restaurateur
Dr. Kenneth McFarland	Americanism
Betty Bruce & Jock Leslie-Melville	Adventurers—Africa
Drew Middleton	Bureau chief for "N.Y. Times" at U.N.
Henry Morgan	Well-known television personality
James Moseley	Expert on unidentified flying objects
Dr. A. L. Rowse	British historian and author
Dr. Robert Scalapino	Chinese/Russian affairs
Alexander Scourby	Noted actor—radio/TV
William Sullivan	FBI assistant director
Irv Wermont	Memory expert
Clarence Zener	Dean of Science—Texas A & M

Lyceums

Irina Arkihipova	Mezzo-soprano
Bella Rodenko	Coloratura-soprano
Detroit Symphony Orchestra	Sixten Ehrling, conductor
George Gibson	Baritone
Gold & Fizdale	Duo-pianists
Leona Gordon	Soprano
Fiesta Mexicana	Dance group
Grant Johannesen and Zara Nelsova	Pianist and cellist
Hans Richter-Haaser	Pianist
Thomas Manshardt	Pianist
Robert McFerrin	Baritone
Philadelphia String Quartet	Ensemble
Schoenfeld Trio	Ensemble
Joseph Schuster	Cellist
Bruce Tuthill	Baritone
Utah Symphony Orchestra	Maurice Abravanel, conductor
Mikhail Vaiman	Violinist
Valery Klimov	Violinist
Vargas Spanish Dancers	Dance group
Vienna Choir Boys	Chorus
Vladimir Ashkenazy	Pianist
Yakov Zak	Pianist

Objectives

> . . . seek ye out of the best books words of wisdom:
> seek learning even by study, and also by faith.
>
> —Doctrine and Covenants, Sec. 88, v. 118

David O. McKay, President of The Church of Jesus Christ of Latter-day Saints, has stated these as the objectives of a student at Brigham Young University. As a student one should

1. Become aware of one's own ignorance and gain humility in contemplating how infinite God's creations are.
2. Increase one's knowledge, selecting those facts and truths which will be most valuable and realizing that exact and definite knowledge is always of the greatest possible value and importance to every individual who has the moral courage to use it rightly.
3. Learn that acquisition of knowledge will result only from personal effort, not from superficial study or shirking.
4. Realize the responsibility one has, because of free agency, of individual choice. The opportunity for rising above the plane of animal existence is open to all who will choose it.
5. Come to a knowledge that the purpose of life is not mere existence or pleasure or fame or wealth, but the perfection of humanity through individual achievement under the guidance of God's inspiration.

It has been the aim of the University to encourage students to realize these objectives, objectives closely allied to, and derived from, the basic philosophy of Mormonism: man, the son of God, is a free agent with unlimited possibilities for eternal development under God's guidance; a never-ending search for truth and for an understanding of the truth should be among the activities of those who aspire to perfection.

Objectives Formulated by the Faculty

The objectives which Brigham Young University has set for itself derive from the Latter-day Saints' concept of the nature of man, which places man as the offspring of God and as a free agent with unlimited possibilities for eternal development under leadership of his Heavenly Father. The noblest goals in eternal life may be achieved only when men work together, keeping the doors of opportunity open for everyone, and when they act under a sense of obligation to share with their fellowmen the most inspiring vision of life's possibilities. Therefore, man must use all possible means of coming into possession of truth. As a result of this Latter-day Saint ideal the curriculum of Brigham Young University includes the revealed word of God, the humanities, the arts, the natural sciences, and the social sciences. Man's glory is his intelligence, by which he may discover and apply truth and ultimately master the universe.

The objectives of Brigham Young University, prepared by the faculty and approved by the Board of Trustees in 1959, are as follows:

Education at Brigham Young University is directed toward the development of the whole person, whose life is balanced by many interests and activities, integrated by a knowledge of divine revealed truth, and dedicated to the service of mankind. The University strives to provide an environment conducive to such growth and sets forth the following as its major objectives:

1. To provide an atmosphere congenial to the development of true Christian ideals in which students may develop faith in God, and obtain an understanding of the principles of the restored gospel and a desire and resolution to make its standards the guiding light of their lives in service to the Church and their fellowmen.
2. To help students obtain an understanding of the world around us—its natural and physical phenomena, its peoples and their problems, and its heritage of wisdom.
3. To promote scholarly research among faculty and students in order to advance the frontiers of knowledge.
4. To assist students in learning to think clearly and critically and to communicate effectively.
5. To foster an appreciation of literature and the arts and to stimulate participation in creative or expressive activity.
6. To assist students in preparing for professional or occupational responsibilities suitable to their interests, aptitudes and capacities.
7. To provide continuing educational training and services to off-campus individuals and groups.
8. To encourage social understanding and personal development in preparation for the responsibilities of family life, Church service, community leadership, and basic citizenship.

Abraham O. Smoot Administration and General Services Building

General University Services

History of the University

Founding and Philosophy. Brigham Young University was established pursuant to a deed of trust executed by Brigham Young, President of the Church of Jesus Christ of Latter-day Saints, on October 16, 1875. That deed expressly set forth that the "pupils shall be instructed in . . . such branches as are usually taught in an academy of learning," and also "in the Old and New Testaments, the Book of Mormon and the Book of Doctrine and Covenants."

A group of seven persons appointed by President Young comprised the first Board of Trustees. They were Abraham O. Smoot, President of Utah Stake of the Church, which embraced all of Utah County, William Bringhurst of Springville, Leonard E. Harrington of American Fork, and Wilson H. Dusenberry, Martha J. Coray, Myron Tanner and Harvey H. Cluff of Provo, all prominent members of Utah Stake.

At a meeting November 22, 1875, the Board of Trustees organized the Academy. At that time the Timpanogos Branch of the University of Deseret had just been discontinued, and it was too late in the year to arrange a complete school year. Consequently the board decided to hold two preliminary terms of Brigham Young Academy. Warren N. Dusenberry, who had been principal of the Timpanogos Branch, was selected to become principal of the Academy. After conducting the first preliminary term, which ended April 15, 1876, he resigned to practice law.

Ten days later, President Brigham Young, acting for the Board of Trustees, requested Dr. Karl G. Maeser, a convert to the Church from Germany, to come to his office. "Brother Maeser," said the President, "I have another mission for you. We have been considering the establishment of a Church school, and are looking around for a man—a man to take charge of it. You are the man, Brother Maeser. We want you to go to Provo to organize and conduct an academy to be established in the name of the Church—a Church school."

A few days later, Dr. Maeser called at the office of President Young and said, "President Young, I am ready to go to Provo. What are my instructions?"

"Only this," replied the President. "I want you to remember that you ought not to teach even the alphabet or the multiplication tables without the spirit of God. That is all. God bless you. Goodbye."

Dr. Maeser accepted this all-embracing charge, believing that the ultimate good in education could be summed up in the words of the Master: "Be ye perfect, even as your Father in Heaven is perfect." In one of his memorable sermons, Dr. Maeser stated the real purpose of the school by saying, "Not by bread alone, neither for bread alone does man live. There are higher objectives yet to be attained, other truths to be learned, and greater work to be done." Years later, consistent with that philosophy, the school adopted as its motto this revelation of the Lord: "The glory of God is intelligence."*

Administration of Karl G. Maeser. Karl G. Maeser served as principal of the Academy from April 24, 1876, to January 4, 1892, a period of 16 years.

He had received intensive training in the excellent German schools of his time. He was a graduate of the Dresden Gymnasium and of the normal schools of Friedrichstadt, Germany. At the time of his conversion to the Church, he was Vice-Director of the Budich Educational Institute at Dresden.

Neither Warren N. Dusenberry nor Karl G. Maeser had much academic assistance at the beginning of school. When Dr. Maeser began his teaching at

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*Doctrine and Covenants 93:36

Brigham Young Academy, he was principal and the sole teacher of the twenty-nine students, most of them from Utah County.

The old Lewis Building, which stood on the corner of Third West and Center Streets, was the first home of Brigham Young Academy. This building was later described by Justice George Sutherland of the United States Supreme Court, one of the Academy's first students, as being a "structure without beauty or grace or any other aesthetic feature calculated to invite a second look . . . . It consisted of one large room and a stage—both so utterly bare and gloomy as to make inappropriate any form of entertainment except tragedy."

By 1882 this building was found to be inadequate for the needs of the school, and additional rooms were built from funds provided by A. O. Smoot, Harvey H. Cluff, Myron Tanner, and W. H. Dusenberry. However, this structure was entirely destroyed by fire January 27, 1884. Temporary quarters were obtained, and the school continued with the loss of only one day of school. During the summer of 1884 arrangements were made with Z.C.M.I. for the use of the upper floor and part of the lower floor of its warehouse on University Avenue.

Members of the Board of Trustees were appointed by Brigham Young until his death in 1877, when the responsibility fell upon his heirs.

The transition of Brigham Young Academy into the University of the Church was marked by periods of great financial distress. Brigham Young died before he had provided for the endowment of the institution. This left the school without any assured source of income.

In the early days of the school, when no funds for the budget could be found, the board actually considered closing the Academy. It was then that Professor Maeser and his faculty showed their loyalty by teaching for anything they could get, including agricultural products, which were accepted from students in lieu of cash tuition.

President A. O. Smoot of Utah Stake was equally loyal. In the winter of 1887, to bolster up a shrinking enrollment, he asked each member in attendance at a stake priesthood meeting to pay the tuition of at least one student at the Academy. On leaving before the close of the meeting, he told the priesthood assembled that they might name the sum he should pay and he would abide by the decision. Members of the Academy faculty readily responded to the call. One faculty member, who was teaching his first year at a salary of twenty dollars per month, paid a quarter's tuition for one student.

On June 8, 1888, President Wilford Woodruff organized a General Board of Education of the Church, consisting of nine members. This board directed the activities of the school, but the power of appointment of the Board of Trustees still remained with the heirs of Brigham Young until July 18, 1896, when, by the adoption of the Articles of Incorporation for the University, the right of appointment was granted to the First Presidency of the Church through the consent of the heirs of Brigham Young. By this action, the Church assumed the indebtedness of the institution and accepted the responsibility of maintaining Brigham Young University.

On January 4, 1892, the school was moved to what is now known as the Education Building, the first structure built especially for the University. Much of the $75,000 it cost was made available through the personal credit of President A. O. Smoot, a member of the Board of Trustees at that time.

Dr. Maeser's administration will be remembered primarily because of his masterful teaching. His legacy to the Church school system consisted of three ideals: (1) the acquirement of intelligence by academic studies; (2) the development of character; and (3) a reverence for the revealed word of God, together with a living testimony of the divinity of the message of the Church which he represented. He often stated that "no infidel" would go out from his school, and it is doubtful whether any did. His sermons were classics which lived with his students throughout their lives. He was the great spiritual architect of the school.

Administration of Benjamin Cluff, Jr. Benjamin Cluff, Jr., a former student of Karl G. Maeser, served as president from January 4, 1892, to December 23, 1903. He was one of the first native Utahans to earn a college degree, having received it from the University of Michigan in 1890. He influenced many young men and women to go to larger universities in pursuit of higher learning. Some of them later became teachers at Brigham Young University.

His administration was effective in changing the school from one which was still largely a normal school, with a very small college department, to a university.

After 1892 President Cluff asked the Church authorities to provide another building to house the growing student body properly. As the Church was not prepared to furnish the money, Reed Smoot, chairman of the Executive Committee of the Board, took the initiative and secured a contribution of one thousand dollars each from Wilford Woodruff, George Quayle Cannon, Joseph Fielding Smith, Reed Smoot, Jesse Knight, Charles Edwin Loose, Alfred William McCune, Amanda Inez Knight, Stephen L. Chipman, and Jesse William Knight. The cost of the building exceeded ten thousand dollars, but Reed Smoot subscribed the additional amount to cover the expense. It was named College Building. Dedication was held in connection with commencement week in 1898.

The financial panic of 1893 further intensified the school's financial difficulties. Some of the real estate sold to clear part of the indebtedness had to be repossessed by the school, and $30,000 was supplied by the Church to be applied on its debts. President A. O. Smoot underwrote large notes for the school to keep it operating. On his death, the trustee-in-trust of the Church, in the interest of the heirs of the estate, agreed to underwrite all notes of the Academy bearing President Smoot's endorsement.

President Cluff was instrumental in founding an alumni association in June of 1893. He gave encouragement to student organization and activity. Early in his administration two school papers were begun; athletic sports such as football, basketball, and track were encouraged; and the school colors, blue and white, were chosen. He established the first summer school and added new departments and laboratories.

In 1895 the title of the head of Brigham Young Academy was changed from "Principal" to "President," and in 1903 the school became Brigham Young University.

In 1900 President Cluff sponsored a South American expedition to engage in archaeological study of Book of Mormon sites. While he was in South America, Acting President George H. Brimhall asked the authorities for a Church normal training school building with a gymnasium on the upper floor. Jesse Knight, a member of the Board of Trustees, volunteered a contribution of $15,000. The board promptly authorized the project. Other contributions were solicited with good results. The total cost of the Training School and Gymnasium Building was $35,000. The dedicatory service was held February 17, 1902.

Administration of George H. Brimhall. On April 16, 1904, after having acted as President of the University while Benjamin Cluff was in South America, George H. Brimhall was appointed President of Brigham Young University. Joseph B. Keeler was appointed as his first counselor and Edwin S. Hinckley his second counselor.

Dr. Brimhall was also a former student of Dr. Karl G. Maeser. He was a dynamic speaker and also a great molder of character. He continually stressed the fact that the primary purpose of the school was to make better Latter-day Saints.

The Missionary and Preparatory Building, later known as the Art Building and now as B.Y. High, was dedicated October 26, 1904. It cost $13,000, of which amount $9,000 was apportioned to four stakes: Utah, Alpine, Nebo, and Wasatch.

In 1904 the students and faculty began negotiations for the purchase of seventeen acres of land known generally as Temple Hill. This land, purchased from Provo City about 1907 at a total cost of $1,000, was the beginning of the upper campus. A survey of the land purchased showed that about one and one-half acres at the point of the hill was not included in the deed given by Provo City. The students and faculty members of the school voluntarily raised an additional $1,000 to pay for this land.

This purchase provided a place for the Maeser Memorial Building, the cornerstone of which was laid on Founder's Day, 1909. It was ready for occupancy the fall term of 1911. The structure and furnishings cost $130,000; the Knight family contributed $65,000, and other members of the alumni some $50,000. The remainder of the cost was met through the sale of Blue Bench Irrigation Company Bonds owned by the school.

The Women's Gymnasium was erected in 1913 and the Mechanic Arts Building in 1919.

On December 21, 1914, the late Jesse Knight made an endowment to the University of one hundred thousand dollars in six percent bonds. The interest payments on these bonds, together with the payments on bonds which have matured, have been placed at interest, and the cash credit of this account now represents approximately twice the amount of the original endowment.

During President Brimhall's administration, graduate work was introduced and the first master's degrees were conferred. The school spirit was furthered by the organization of the students into a student body. Printing of the school yearbook, "The Banyan," was begun, and a huge white "Y" was placed on the mountainside east of Provo.

Dr. Brimhall served until July 1, 1921, a period of 17 years.

Administration of Franklin S. Harris. Franklin S. Harris, a former student of the institution under President George H. Brimhall, was selected to succeed his former president. Dr. Harris had received his Ph.D. degree from Cornell University in 1911 and had served as an instructor in the Juarez Academy and Cornell University, professor of agronomy for the Utah Agricultural College, director of the School of Agricultural Engineering and Mechanical Arts, and director of the Utah Experiment Station at the Utah State Agricultural College. He had a worldwide reputation as a scientist.

Dr. Harris became president July 1, 1921, and served until June 30, 1945, a period of 24 years, the longest term of any president. During his administration, academic gains of great significance were made. The University was organized into five colleges: Applied Sciences, Arts and Sciences, Commerce, Education, and Fine Arts; and the Division of Religion and the Extension Division were established. The Graduate School was formally organized and a dean of the Graduate School appointed. The Heber J. Grant Library was completed in 1925, the Y Stadium in 1929, and during the last ten years of his administration a building program was begun which has been accelerating ever since.

It was President Harris who first envisioned the present expanded upper campus of the University and indeed who made it possible by his extensive purchasing of lands surrounding the original upper campus. It was also during his administration that all members of the Quorum of the Twelve became members of the Board of Trustees.

In 1935 two stories were added to the Mechanic Arts Building to provide additional classrooms and laboratories. The name was changed to George H. Brimhall Building. During 1935-36, a Stadium House on the west side of the football field was erected. In 1937-38, Allen Hall, a men's dormitory, and in 1938-39, Amanda Knight Hall, a women's dormitory, were constructed. These buildings accommodate 90 and 130 students, respectively. The construction of both buildings was financed by borrowing from the Knight Endowment Fund. The Joseph Smith Building was begun in 1939 and completed in 1941 as a project of the Church Welfare program. During 1943 the University acquired the National Youth Administration Building on the east part of the campus for use of the Mechanic Arts Department. In 1944, because of the acute housing problem created by the building of the Geneva Steel Plant, it was equipped to serve as a temporary dormitory for women.

The University had two acting presidents during the administration of Franklin S. Harris. L. John Nuttall served from 1926 to 1927, while E. H. Holt guided the University in 1929.

Administration of Howard S. McDonald. Howard S. McDonald, the next president of the University, served from July 1, 1945, to October 30, 1949. Before being appointed to this position he had served as assistant superintendent of schools in San Francisco and later as superintendent of Salt Lake City schools.

Under his leadership the school experienced a major expansion. From 1946 to 1948 the temporary women's dormitory at the southeast end of the campus was remodeled into what is now known as Social Hall, containing classrooms and offices. During the same period Knight-Mangum Hall, a four-level structure adjoining the Social Hall on the west, was constructed. This building first provided housing and eating accommodations for 280 women. It now houses missionaries in the language training program. Because of the enlarged postwar student body, student housing facilities were greatly increased. In cooperation with the Federal Works program, temporary housing, known as Wymount Village, was constructed in 1946-47 near the eastern edge of the campus for 200 married veterans and their wives and for 350 single veterans. Also under the Federal Works program of aid to education, temporary-type buildings were provided in 1946-47, consisting of the Physical Plant Building, Public Relations Building, North Building, Industrial Arts Building, Wymount Dining Hall, and University Press. In 1948 the Speech Department was moved to the upper campus and housed in temporary buildings. Here the Brigham Young University broadcasting station, KBYU, was located. A central heating plant costing $200,000 was constructed in 1946.

Under President McDonald's direction the Eyring Science Center was begun and almost completed. Called by many educators the finest and most modern science building between the Mississippi and the Pacific Coast, it has four stories and contains approximately 150,000 square feet of floor space (practically the equivalent of the space of all of the other buildings of the University previously constructed). It is equipped with the finest facilities for study and research. Moreover, it is proof of the Church's sincere belief that there is nothing inconsistent between scientific truth and the teachings of the gospel.

During his administration the planning and architectural drawings of buildings for the University were assigned to a University architect. The buildings and grounds were placed under the direction of a superintendent of buildings and grounds.

In the postwar era of expanding collegiate enrollments, Brigham Young University, under his direction, expanded at a much faster rate than many other universities of the country. The faculty was increased to meet the new need. The Graduate School and the Student Counseling Service were both reorganized. As was true with his predecessors, he upheld and perpetuated the spiritual ideals of the University's academic life.

Administration of Christen Jensen. Dr. Christen Jensen acted as President of Brigham Young University during 1939-40 (when Dr. Harris spent a year in Iran) and again from November 1, 1949, until the early part of 1951. His two periods of administration were characterized by an emphasis on scholarship and a meticulous observance of proper University standards. In an era of dynamic University problems, President Jensen directed an administration characterized by academic and administrative stability and sound judgment. Under his direction the Eyring Science Center was completed and dedicated on October 23, 1950; the plans for the new George Albert Smith Fieldhouse were approved, a drive for funds conducted, and its construction practically completed at a cost of over $1,000,000. It provides, in addition to athletic and physical education facilities, offices for faculty members in the College of Physical Education. The fieldhouse has a capacity of 10,650 persons.

Administration of Ernest L. Wilkinson. In 1950 Dr. Wilkinson was selected by the Board of Trustees as the new President. He began his period of service in February 1951.

After graduating from Brigham Young University, he was graduated from George Washington University Law School where he received his LL.B. degree. He then attended Harvard Law School where he obtained the degree of Doctor of Juridical Science. After graduation he accepted an appointment to teach at the New Jersey Law School as professor of law. Soon thereafter he was invited to become an associate in the New York City law firm of which the Hon. Charles Evans Hughes, later Chief Justice of the Supreme Court of the United States, was the senior member. Later, organizing his own firm in Washington, D.C., Dr. Wilkinson achieved a national reputation as a lawyer, climaxed by obtaining judgments of $32,000,000 for the Ute Indians, the largest judgments ever entered in the United States Court of Claims against the United States.

As a churchman he has served as a bishop in the New York Stake and as a member of the stake presidency in the Washington Stake, and he has represented the Church on the National Commission for Army and Navy Chaplains, which approves chaplains appointed to the armed forces of the United States.

In 1951 a Reserve Officer Training Corps unit of the Air Force was activated at Brigham Young University. The officers of this unit have been selected by the Secretary of the Air Force, with the approval of the President of the University. This unit is composed entirely of students regularly enrolled at Brigham Young University, and the same standards of conduct and living are required of them as of other students at the University. In accordance with an agreement with the federal government, a building was completed in October 1952, which serves as a permanent rifle range for the AFROTC.

During his sixteen years of service, the University experienced well over a 100 percent increase in enrollment. In 1953 the University became the largest church-related institution of higher education in the United States. The faculty witnessed an even larger proportional increase in numbers, and the five colleges, one school, and two divisions previously comprising the University were increased to eleven colleges, one school and one division: Colleges of Biological and Agricultural Sciences, Business, Education, Family Living, Fine Arts and Communications, General, Humanities and Social Sciences, Nursing, Physical and Engineering Sciences, Physical Education, Religious Instruction; Graduate School; and Adult Education and Extension Services.

Throughout his administration President Wilkinson insisted upon ever-higher standards of scholarship. Under his direction the curriculum underwent extensive revision to eliminate subuniversity or duplicating courses, to strengthen existing courses, and to add courses needed in the expanding college program.

A notable advancement in the academic program of the University resulted from the action of the Board of Trustees in authorizing programs leading to the Ph.D. and Ed.D. degrees. Between November 22, 1957, when the first doctoral degrees were authorized, and the present date approval has been given to fourteen departments for programs leading to the Ph.D. degree in twenty-six fields of study. Two departments offer work leading to the Ed.D. degree.

Among his most significant achievements was the organization on January 8, 1956, of a Brigham Young University stake of the Church. That stake has been divided into several stakes, and the original twelve wards have been increased to about six times that number of wards. Spiritual benefits of this program to students have been incalculable. One specific advantage is the providing of a spiritual adviser to every 300 or 400 students supplementing the regular University Counseling Center and offering a dual system of advising and counseling.

Earl C. Crockett was acting president in 1964 while President Wilkinson was a candidate for the U.S. Senate.

The laboratory schools of the College of Education at Brigham Young University were discontinued at the end of the 1967-68 school year by the decision of the Board of Trustees.

During the administration of President Wilkinson, the following new buildings and facilities were added to the University:

The Herald R. Clark Student Service Center, begun in July 1952, was completed and made available for occupancy in March 1953. The financing of this building was primarily from income of the Students' Supply Center over its years of operations. In the building was housed the Division of Adult Education and Extension Services.

A large building project was started July 1952 with the construction of 16 buildings making up what is known as Heritage Halls. These buildings, completely modern in every respect, house 972 girls. Six girls live together in an apartment, preparing their own meals and doing their own housework. There are ten apartments to a building. Occupancy of the first of the buildings was begun in March 1953. The entire project was completed and fully occupied by the fall quarter of 1953.

Eight new buildings to house women students were added to the original 16 buildings of the Heritage Halls group. The total project was completed in the summer of 1956 and was fully occupied for the fall quarter of that year. The addition of these eight structures brought the total accommodations for this type of housing for women to 1,548.

The Harvey Fletcher Engineering Laboratory Building, constructed in 1953 and added to in 1954 and 1955, is an H-shaped building having four wings with laboratory space for the Civil, Mechanical, Electrical, and Chemical Engineering Departments. The central core of the building consists of offices serving the needs of the teaching staff. In 1953 a temporary motion picture building with sound stage and related facilities was constructed. This building was equipped with modern animation and motion picture sound equipment for production of educational moving pictures.

The David O. McKay Building, a classroom building containing 104 offices and 31 classrooms and laboratories, was begun in March 1954 and completed in December of that same year. This building currently houses the College of Education and the language departments. In the early spring of 1955 the Benjamin Cluff Plant Science Laboratory, with two connecting greenhouses, was completed. This structure is used by the Botany, Agronomy and Horticulture Departments. The Howard S. McDonald Student Health Center was opened for use of all students enrolled at the University in the fall of 1955.

Construction of the Joseph F. Smith Family Living Center began in the fall of 1955 and was completed in December 1956. Housed in this structure are the College of Family Living, the College of Nursing, a nursery school, and the Departments of Psychology and Sociology. New housing facilities for married couples were added to the University housing projects in 1957. Wyview Village, a project consisting of 150 two- and three-bedroom homes for married students, was completed and fully occupied in the fall of 1957. Another project during 1957 was the conversion of the University heating system to a $2,000,000 high-temperature water system.

In the fall of 1958 five residence halls, known as Helaman Halls, were completed. This project consists of residence structures housing 1,170 and one central building with dining, recreation, and business office facilities. Two additional residence halls became part of this project in the fall of 1959, bringing the total number of accommodations up to 1,638.

A permanent building for the production of motion pictures was completed in the fall of 1958. It is located in the river bottom area a short distance from the main campus. In December of 1959 the William H. Snell Industrial Education Building, containing 60 rooms for offices, classrooms, and laboratories for the Industrial Education Department, was completed. At this same time an addition to the west end of the George Albert Smith Fieldhouse was readied for use.

During the summer of 1960, the Jesse Knight Building, which houses the departments of the College of Business, was completed.

An underpass located near the "Y" Bell Tower was built in 1961 to accommodate the pedestrian traffic between upper campus and the fieldhouse.

The four-level, X-shaped Abraham O. Smoot Administration and General Services Building was completed in the summer of 1961. Also completed in the summer of 1961 was the 1,000,000-volume capacity J. Reuben Clark, Jr., Library Building which has five levels, two of them below ground.

The Alumni House, located at the brow of the hill near the main entrance to the campus, was completed in the fall of 1961. During this same period ground was broken for the Wymount Terrace housing project, which was completed in March of 1963. This project consists of three laundry buildings, an administrative office building, and 462 apartments currently housing 198 families, 1,006 single girls, and fourteen head residents.

The new Physical Plant Building, completed in September 1962, houses all the shops which deal with the maintenance and upkeep of the campus, custodial services, and the motor pool. Modifications and an addition to the central heating plant were undertaken in 1963 to handle the expanded building program on the campus.

Recently completed are the Franklin S. Harris Fine Arts Center and the Ernest L. Wilkinson Center, which were dedicated on April 3, 1965. Other new additions are the new all-steel stadium which seats 26,812 spectators; an addition on the east end of the fieldhouse; new seven-story Deseret Towers, a cluster of five residence halls and their adjoining dining hall which will house 1,350 students; the Stephen L Richards Building with three swimming pools and four gymnasiums; Dairy Products Laboratory; a biology laboratory building; additions to the Jesse Knight Building and the Cluff Plant Science Laboratory; and another extension to the heating plant.

Extensive remodeling of the Herald R. Clark Building has brought the entire Division of Continuing Education under one roof. The building is shared by Educational Media Services. The Joseph Smith Memorial Building also has been remodeled to accommodate large-screen closed-circuit television classes in its auditorium, and many new offices and classrooms have been added in the building.

Campus roads and walks have been expanded and improved and as of 1966 blacktopped parking areas accommodated 9,951 cars, including 2,698 at the new stadium.

The University Today

Recent Developments in University Administration. Since the organization of The Church of Jesus Christ of Latter-day Saints, its leadership has been sensitive to the need of continuing intellectual and spiritual growth for all its members. To meet this need, Church educational policies have constantly been modified to serve more fully the youth of the Church.

In July 1953 all Church educational institutions were combined under one administrator and president who in turn was responsible to a board of education, which consists of the First Presidency and the Council of the Twelve, for the administration of Ricks College, an academy and elementary schools in Mexico, the LDS Business College in Salt Lake City, and the institutes and seminaries of the Church, and to a board of trustees, consisting of the same General Authorities, for the administration of Brigham Young University. In announcing this unified plan The First Presidency said: "This great system of schools, institutes, and seminaries can become an even more effective instrumentality in equipping the youth of the Church with solid foundations to meet the challenge of modern living." It added that the Administrator and President, Dr. Ernest L. Wilkinson, "has surrounded himself with strong men to do a big job," and that "he will have at his service strength not only of these men, but of all the members of the Brigham Young University faculty."

In 1961 the title of the Administrator was changed to that of Chancellor of the Unified Church School System.

With the effectuation of the Unification Plan the administrative offices of the Church education were, to the extent then physically possible, established at Brigham Young University, making the University the mother institution for Latter-day Saint education. Upon completion of the Abraham O. Smoot Administration and General Services Building, the entire staff of the Church Educational System was moved to the Provo campus.

At that time the Chancellor and President, Ernest L. Wilkinson, was assisted by John T. Bernhard, administrative assistant; William E. Berrett, administrator of institutes and seminaries; Earl C. Crockett, academic vice-president of BYU; Harvey L. Taylor, vice-president in charge of student functions and education weeks for BYU and the junior college program; Ben E. Lewis, vice-president in charge of auxiliary services; Clyde D. Sandgren, vice-president and general counsel; Joseph T. Bentley, comptroller; and J. Elliot Cameron, dean of students. On matters of over-all policy the above officers meet as an Administrative Council for the purpose of advising the Chancellor and President and resolving mutual problems.

In January 1964 President Wilkinson resigned to become a candidate for the United States Senate, and Earl C. Crockett served as acting president. On December 3, 1964, Dr. Wilkinson was reappointed by the Board of Trustees as President of Brigham Young University and Chancellor of the Unified Church School System. These were separated on February 5, 1965, when Dr. Wilkinson was appointed President of Brigham Young University, and Dr. Harvey L. Taylor was appointed acting administrator of The Church of Jesus Christ of Latter-day Saints Church Schools. The term "Unified" was dropped. Under Dr. Taylor's administration are Ricks College; LDS Business College; the Church schools in Mexico, South America and the Pacific Islands; and seminaries and institutes of religion.

Brigham Young University's Administrative Council now includes Ernest L. Wilkinson, President; Earl C. Crockett, academic vice-president; Ben E. Lewis, vice-president for Business Affairs; Clyde D. Sandgren, secretary of board, vice-president, and general counsel; Robert K. Thomas, assistant vice-president; Dean A. Peterson, administrative assistant to the President and director of Summer School; Stephen R. Covey, assistant to the President for University Relations; David B. Haight, assistant to the President; Raymond E. Beckham, director of University Development; J. Elliot Cameron, dean of students; William R. Siddoway, dean of Admissions and Records. Ex officio members are Edwin J. Butterworth, director of Press Relations; and Leland H. Campbell, director of Institutional Research. This council is advisory to the President.

A survey made during a recent semester provided the following information about the faculty:

3 were regional representatives of the Quorum of the Twelve Apostles of the Church.
39 were serving on general boards and committees of the Church.
1 was a temple worker.
13 were stake presidents.
13 were serving in stake presidencies.
1 was a stake patriarch.
11 were serving as mission presidents.
5 were serving in mission presidencies.
90 were on stake high councils.
141 were serving in other stake positions.
78 were ward bishops.
54 were in ward bishoprics.
484 were serving in other ward positions.
30 were serving in elders' and seventies' quorum presidencies.

Academic Growth and Recognition. Brigham Young Academy as originally organized by Karl G. Maeser had three departments: the Academic, the Intermediate, and the Primary. Instruction was given mostly in the work of the lower grades, although a normal class was included in the Academic Department. Today the University offers a full university curriculum, and its credits are recognized and accepted to the same extent as those of other leading American colleges.

Brigham Young University is affiliated with the following educational associations:

American Association for Adult Education
American Association of Colleges for Teacher Education
American Association of Collegiate Registrars and Admissions Officers
American Association of University Women
American College Public Relations Association
American Council on Education
American Home Economics Association
American Library Association
The American School of Oriental Research
American Society for Engineering Education
Association of American Colleges
Department of Baccalaureate and Higher Degree of the National League for Nursing
Educational Films Library Association
National Association of Schools of Music
National Association of Student Personnel Administrators
National Commission of Accrediting
National Council of Family Relations
National University Extension Association
Utah Conference on Higher Education
Western Council for Higher Education in Nursing
Western Interstate Commission on Higher Education
Western Personnel Institute

In addition, Brigham Young University is fully accredited by the following organizations:

Northwest Association of Secondary and Higher Schools
American Association of Collegiate Schools of Business
American Chemical Society
American Institute of Design and Drafting
Engineering Council for Professional Development
National Association of Schools of Music
National Council for Accreditation of Teacher Education for the preparation of elementary teachers, secondary teachers, and school service personnel, with the master's degree as the highest degree approved.
National League for Nursing
Utah State Board of Nursing
Utah State Department of Education
Utah State Department of Public Instruction in cooperation with the United States Office of Education for the training of vocational home economics teachers.
United States Department of Health, Education & Welfare—Division of Vocational and Technical Education

Growth of the Student Body. When founded in 1875, Brigham Young Academy gave elementary and high school work only. Over the ninety-two years of its existence it has become in terms of full-time equivalent students the largest university in Utah.

At the time of its organization in 1875 nearly all of the students came from Utah County and its environs. Its student enrollment began at 29. During the regular 1966-67 school year, there were on campus approximately 22,470 daytime students. This number combined with the enrollments of the Summer School, Evening Classes, and Laboratory Schools brought the total to 27,404 students. In addition, from September 1966 to August 1967 there were 95,076 enrollments in the Division of Continuing Education.

The students registered during the last few years came from all the states of the Union, the District of Columbia, the Panama Canal Zone, and 58 foreign areas. Approximately 66 percent of the students are from outside the state of Utah. As in the days of Dr. Maeser, industry and thrift are encouraged. At the present time approximately 40 percent of all students are employed in earning part of their subsistence.

Membership in The Church of Jesus Christ of Latter-day Saints is not required for admission, although at the present time 95 percent of the students are members of the Church. The other 5 percent, as a condition of their continuance as members of the student body, are required to abide by the same standards of morality and integrity as other students.

University Library

The J. Reuben Clark, Jr., Library contains the library collection, which includes approximately 700,000 bound volumes, fifty thousand pamphlets, and an extensive collection of titles on microfilm and microcards. A good selection of professional journals and other current periodicals as well as local, regional, and national newspapers is also available.

The library is a depository for United States, United Nations, Mexican, and Canadian government documents and regularly receives publications of state and local governments. The general library facilities are available to students, faculty, alumni, and other interested persons. Regularly enrolled students present their activity cards to borrow books. Others may obtain a permit from the circulation librarian. The library is open during the college year from 6:45 a.m. to 10:00 p.m. Monday through Friday, and from 9:00 a.m. to 6:00 p.m. Saturdays. Vacation hours, when school is not in session, are 8:00 a.m. to 5:00 p.m. Monday through Friday; it is closed holidays.

The general collection and subject reference materials are available on open shelves on four of the five levels—two below and two above the ground floor. The general reference collection, the public catalog, the circulation desk, and administrative offices are located on the ground level. An informational booklet is available to assist in the use of these facilities. Study space is available on each floor interspersed with stack areas.

The special collections of the library, located on the fourth level, often come to the library from individuals whose interests lead them to devote many years to their acquisition. The books and other material housed in this area are not available for general circulation. Material within each collection is usually confined to a specific subject area.

The facilities of other libraries operated by the LDS Church are available also to students of Brigham Young University. The Genealogical Society Library in Salt Lake City contains approximately 75,000 books and over 500,000 rolls of microfilm. These include family histories, genealogy, biography and autobiography, military records, cemetery inscriptions, town, county, and state histories of the United States, and both local and national histories of other nations. The Utah Valley Branch Genealogical Library, operating under the general direction of the society, is headquartered at the J. Reuben Clark, Jr., Library.

Facilities of the library of the Church Historian's Office are available by arrangement to advanced students for research. It is located in Room 301 of the LDS Church Office Building, 47 East South Temple in Salt Lake City, and is open from 8:30 a.m. to 5:00 p.m. Monday through Friday. Its collections contain publications of the Church, periodicals of the various auxiliary organizations, reports and histories of the various missions, general history of the Church, biographies of Church leaders, and other pertinent published and archival material.

BYU Studies

"Brigham Young University Studies," begun in 1959, is a scholarly quarterly journal edited and published on campus. It provides a voice for the community of LDS scholars who are endeavoring to synthesize the spiritual and intellectual in their quest of truth, to seek "learning by study and also by faith." (D&C 88:188.) Contributions deal with LDS thought, history, theology, and articles from any field of general interest written for the informed nonspecialist.

Science Collections

The archaeological collections consist of materials for study and research in the early history of man in both the Old World and the New. Original antiquities illustrating the Old World range from crude stone hand axes of the Old Stone Age to inscribed tablets and other advanced products of the biblical civilizations of the Near East. Those illustrating the New World include artifacts of the early Indian cultures of Utah and the Southwest, and the pre-Columbian civilizations of Mexico and Central and South America.

Supplementing these materials are replicas of such famous archaeological monuments as the Rosetta Stone—key to the decipherment of the Egyptian hieroglyphics—and the "Tablet of the Cross" and Stela 5 ("Lehi Tree-of-Life Stone"), from the Central American ruins of Palenque and Izapa, respectively.

Also among the collections is a research archive of photographs and field card records of antiquities excavated or examined by archaeological expeditions of the University and other institutions.

These collections constitute the Museum of Archaeology and Ethnology, which is open to the student body and the public on the first floor of the Karl G. Maeser Memorial Building.

The botanical collection includes an herbarium of fungi, liverworts, mosses, and vascular plants from many parts of the world. The mycological collection consists of more than 6,000 specimens of fleshy and parasitic fungi, most of which have been collected in the Rocky Mountain area. This represents the largest collection of its kind in the region.

The vascular plant herbarium includes over 200 plant families, 1,250 genera, and 10,000 species, represented by over 60,000 herbarium sheets. The collection is made up principally of plants collected in the western states, but many plants of the eastern states, Europe, Mexico, and South America are included as well as a good representation of the Arctic regions of Siberia, Iceland, and Alaska including the Aleutian Islands. Some 2,000 specimens recently have been added to the collection from the Mediterranean region of Europe and from the Middle Eastern countries of Iran and Afghanistan. Separate collections of poisonous plants, range plants, woody plants, and plant diseases are maintained.

The department maintains an arboretum where many trees and shrubs of various regions of North America are grown in natural association. This garden is designed as (1) an experimental project to enrich the tree flora available for use as shade trees, (2) a public educational exhibit, and (3) a study area for many classes. Several gardens also are maintained for experimental plantings.

The geological collections of the University consist of an unusually complete series of minerals and an interesting variety of fossils.

The minerals number many thousands and are representative of the great western mining districts together with hundreds of localities of note. Part of this collection once represented the nucleus of the famous Deseret Museum Collection of Salt Lake City.

The fossil series are representative of many states and typical world localities. Much of this material also was formerly a part of the Deseret Museum Collection.

A museum displaying several unusual fossil dinosaurs and other reptiles and mammals has been developed by the Geology Department curator. It is open daily for public inspection.

The zoological collections of the University consist of a large series of vertebrate and invertebrate species from western North America and from many foreign countries. These materials are available to teachers, advanced students, and visiting scientists.

The vertebrate collections consist of thousands of fishes, amphibians, reptiles, birds, and mammals housed in the Heber J. Grant Building. In addition to the representative series of local species, the vertebrate collections include the Chester Van Buren collection of South and Central American birds; the Robert G. Bee, John Hutchings, Merlin L. Killpack, and Ashby D. Boyle collections of bird eggs; and the David Starr Jordan specimens of Hawaiian fishes. Staff members, graduate students, and friends of the University have contributed material from Mexico, South America, Africa, Formosa, Malaya, and the South Pacific Islands, as well as from other areas throughout the world.

The invertebrate collections include numerous specimens of insects and their near relatives as well as many representatives of the other phyla of invertebrates obtained locally and from many distant places. Medically important arthropods such as fleas, lice, mites and ticks are represented. Special collections include the Lee F. Braithwaite Collection of marine invertebrates; Lynn and Kate Irene Meibos Collection of mollusk shells; Tom Spaulding and Ashby D. Boyle butterfly collections; and the Charles W. Leng, Charles Schaeffer and Willis Blatchley collections of beetles. The extensive collections of more than a half million insects are housed in the Brimhall Building. Other invertebrates are suitably preserved and available for research and academic purposes.

Research grants from the Atomic Energy Commission, National Science Foundation, National Institutes of Health, and the Texas Gulf Sulphur Company (Potash Division) have made it possible to add materially to both vertebrate and invertebrate collections from southern Nevada, the Colorado River Basin, other areas of the Intermountain West, Mexico, and Central America.

Faculty Organizations

BYU Women. All women who are full-time employees of Brigham Young University and wives of full-time employees are eligible for membership in BYU Women. Strong in tradition and prestige, BYU Women has been promoting University ideals and providing intellectual and social opportunities for its members since 1916. The program includes afternoon cultural programs, partner-and-guest events, projects, and opportunities to support the University and become better acquainted with the BYU faculty.

The Society of the Sigma Xi. The Society of the Sigma Xi is a national organization devoted to the encouragement of research in pure and applied science. The local unit is known as the Brigham Young University Chapter. Members of the Society of the Sigma Xi on the staff at Brigham Young University organized a Sigma Xi club in 1935. Since that time it has remained continuously intact, encouraging research and other activities in the various branches of science. A petition for chapter standing was submitted by the local club in 1949. A chapter was granted by the National Society of the Sigma Xi, and formal installation took place October 17, 1950.

Specific local projects include the sponsoring of a national Sigma Xi-appointed lecturer, the promotion of several lectures by prominent scientists within the unit and from nearby institutions, an annual Sigma Xi lecture by a member of the chapter, the awarding of certificates to graduate students in recognition of outstanding master's and Ph.D. theses, and the direction of possible sources of research funds in the interest of pure and applied science.

Alumni Association

The Brigham Young University Alumni Association was organized in 1893 to "promote the general welfare of Brigham Young University."

During the more than seventy years of its existence it has assisted the University in many ways. The Maeser Memorial Building was built with funds from alumni; part of the property on which the upper campus now stands was obtained by the Alumni Association and turned over to the University, and eighty additional acres were purchased by the Church at the suggestion of alumni leaders; a permanent endowment fund was established in 1929; the Alumni Association is now taking an active part in the Brigham Young University Development Program; the fieldhouse fund drive was supported by the Alumni Association; funds in cash have been turned over to the University at various times for unrestricted use; the Alumni Association played an important role in the raising of funds for the new football stadium; and the alumni have played a vital part in stimulating interest in Brigham Young University through contacts with prospective students.

Alumni of the University are located in all fifty states, four United States territories and possessions, and fifty-two foreign countries. Business matters of the association are handled by an eighteen-member board of directors, headed by a president, two vice-presidents, a treasurer, the president of the Emeritus Club (composed of alumni who were at the University fifty or more years ago), and a full-time executive director. Members of the board of directors are selected each year to serve terms of three years.

The Alumni Association maintains an Alumni Family Camp at Aspen Grove, located in the North Fork of Provo Canyon approximately eighteen miles from Provo. Constructed in 1963, this mountain retreat invites alumni to return to the area with their families to participate in a program of recreation and education. Included in the facilities are fifty individual cabins, swimming pool, lodge, tennis courts, softball field, dining hall, modern kitchen, children's playground, and other recreational and camping accommodations. The camp is operated on a nonprofit basis and is open during June, July, and August of each year for the benefit of members of the Alumni Association and their families.

Anyone who has attended the University for one quarter or more is a member of the Alumni Association. There are no annual dues or membership drives, except that the Alumni Association solicits contributions for the Brigham Young University Annual Alumni Fund. All contributions to this Fund are tax-deductible and entitle the donor to receive publications of the University and the Alumni Association, including the "Alumnus Magazine," which is issued quarterly.

Homecoming, in the fall, and Alumni Day, during commencement week, are the two major events of the year on campus for alumni. Periodic reunions of all graduating classes are held on these two days. Meetings also are held throughout the country by alumni living in local areas.

The Alumni Association maintains permanent records of all former students of the University and a full-time office staff on the campus. If the current address or other information is needed about a former student, correspondence should be addressed to the BYU Alumni Association, BYU Alumni House, Provo, Utah 84601. Alumni visiting the campus are invited to visit the alumni offices in the new Alumni House and to make the building their headquarters while in the area.

The Alumni Association is a member of the American Alumni Council, an organization composed of alumni associations of all the major universities and colleges in the United States, Canada, and Mexico.

Security and Traffic

The Security Office, a protective agency established for the benefit of students, faculty, and staff, maintains effective liaison with the local police department and is entrusted with the proper enforcement of campus rules and regulations. All matters concerning security or requiring police action should be referred to this office.

Another major responsibility of the Security Office is the control of campus motor vehicle traffic and parking. In each academic year University staff members and students who regularly or occasionally operate motor vehicles in Provo City shall register any such motor vehicles with the University Traffic Department. In the case of students this is a registration for identification only, not a parking permit. All staff members and students who plan to park on University parking lots between 8 a.m. and 4 p.m. on school days must display a parking permit on their motor vehicles. The student parking fee is $10.00 per academic year.

The Security Office also offers many other services to students and staff members, including the taking of fingerprints necessary for teaching certificates, government jobs, and AFROTC and an ambulance service in connection with the Student Health Center. All campus roads will be closed on Christmas Day each year to preserve the private ownership thereof.

Automobile Registration: Out-of-State Students

Out-of-state students may register their cars either in their home state or in Utah. If fees and taxes are paid in the home state, students will be exempt from payment in Utah.

Students from out of state must register their cars on the campus. If the cars have been properly inspected, the students can get nonresident stickers from BYU for $.50 and will not be required to purchase Utah license plates.

Every student who is a resident of Utah, and every nonresident student who is in Utah for more than sixty days, is required to have a Utah operator's license before he may legally operate a motor vehicle on Utah highways.

Ernest L. Wilkinson Center at night

Business Affairs

The Business Affairs area of the University includes the following divisions: Auxiliary Services, Communication Services, Computer Research Center, Financial Services, University Personnel Services, University Press, and Wilkinson Center. This area is headed by the vice-president for business affairs.

AUXILIARY SERVICES

The University has a number of business units which operate as part of the services provided for students and faculty. As a matter of general policy these business units operate on a self-sustaining basis. They include functions such as housing, feeding, purchasing, warehousing, receiving, creamery products, laundering, bookstore, farm management, auxiliary special service and auxiliary maintenance, etc.

Student Housing

The business and financial aspects of student housing, on campus and in the Provo community, are supervised from the Office of Student Housing. For details concerning these services, including housing rates, refer to the section of this catalog titled "Student Housing."

BYU Bookstore

The BYU Bookstore is a department store right on campus in the Wilkinson Center. In addition to regular books and supplies needed in classes, it carries a wide range of convenience items to help the student conserve shopping time.

The BYU Bookstore is owned and operated by Brigham Young University. Modest profits made by the store after all operating expenses are paid are returned to the University. A part of every dollar spent at the store goes to help operate and maintain the Wilkinson Center for students and faculty.

In this campus setting every effort is made to operate the store as an example of good retail practice and as an essential service to the University family.

Food Services

The University-owned-and-operated food services provide the following accommodations:

CAFETERIA SERVICE

Regular student board and room accommodations are available in Helaman Halls and Deseret Towers. Here food is prepared and served cafeteria style. The Language Training Mission on campus is accommodated in Amanda Knight, Allen, and Knight-Mangum Halls. All food needs are supplied to these halls on a cafeteria basis.

The Ernest L. Wilkinson Center shopping-style dining area is a favorite of many people. The easy-flow style provides quick service for the patrons.

SNACK BARS

Snack Bar services are provided in Cannon Center, Deseret Towers, the Ernest L. Wilkinson Center, and the George Albert Smith Fieldhouse.

VENDING

Quick snacks are provided by vending machines operated throughout the entire campus by Auxiliary Services.

DAIRY PRODUCTS LABORATORY

The University maintains a Dairy Products Laboratory where milk and ice cream are processed. This laboratory is maintained to meet the academic objectives of the University and to serve the needs of the food service unit on campus. Faculty and staff members are eligible to purchase milk, ice cream, and other dairy products and bakery goods at very favorable prices at this location. This new facility is located north and west of the new Deseret Towers, and access roads are available from 900 East and 1430 North.

CONCESSION STANDS

The food services provided through the concession stands in the George Albert Smith Fieldhouse and the new stadium for all athletic and student functions are part of the Food Services Department.

BAKERY

A large bakery operation is operated by the Food Services Department to supply the needs of the campus. Retail outlets are located in the Ernest L. Wilkinson Center and the Dairy Products Laboratory.

CATERING

In-service and take-out catering services are available. Each social function availing itself of these services receives individual attention both in planning and serving by the catering staff. A call or visit to the Catering Office in the Wilkinson Center will insure you of professional assistance in the arrangement of food services for your special event.

Faculty and staff members and their families and University visitors and guests are always welcome to use the services available in all units of the Food Services Department.

Purchasing Department

The Purchasing Department is located in Room C-144 of the Abraham O. Smoot Administration and General Services Building. Its services are designed to relieve faculty, other members of the University staff, and the associated students from certain duties of procurement. Through this department all purchase orders are issued for equipment, supplies, and services for the University, with the exception of library books, which are ordered by the library on special purchase orders.

STORES AND RECEIVING

The Stores and Receiving Department is located in the new University Press-Food Services Building on 1700 North 700 East. All deliveries are made here for materials ordered by the University. All items received are inspected (with the exception of drugs, chemicals, zoological specimens, and delicate scientific instruments, which go directly to the department using them) before being delivered to the various ordering departments.

COMMUNICATION SERVICES

All of the communication service agencies on the campus have been brought together to provide a broad spectrum of support to the educational media and communication programs of the University. These agencies include the areas named below. The graphic arts, films, spoken word, still and motion picture arts, and the televised story are all unified to provide a modern approach to the University and Church programs. Programmed instruction and the new electronic media help to bring to the student a long-lasting educational experience.

Broadcast Services

The University maintains and operates radio and television facilities for an extensive academic program on campus. Closed-circuit television activities through the use of both large and small screen systems support the academic offerings in many departments. In addition, large numbers of radio-television majors are served through the use of the facilities in academic classes and laboratories.

Studios for an FM radio station, KBYU-FM, and an educational television station, KBYU-TV, are maintained and operated at the University. Studios are located in the Harris Fine Arts Center. The television transmitter is located on Mount Vision west of Salt Lake City in the Oquirrh Mountains. In addition to regular program schedules these two stations provide a program service for advanced students in radio and television broadcasting. They are also used as a resource by the entire University and Church in the enhancement of their objectives. The television facilities include modern video recorders as well as a large van-equipped remote unit.

Educational Media Services

The Educational Media Services Department provides a variety of services to the faculty in connection with the programming, procurement, production, and utilization of instructional materials in teaching.

An instructional materials workroom is at the disposal of all members of the faculty for the preparation of instructional materials. Assistance in the programming and actual production of the materials is available without charge. The Media Development and Marketing Section coordinates the preparation of special materials for educational and Church organizations, as well as the sales of BYU-produced motion pictures and other instructional materials. University Cinema is an EMS program that, in cooperation with the faculty, brings high-quality theatrical motion pictures to campus that have direct relevance to the University's academic program.

This department is also responsible for maintaining an extensive film library, the largest in the Intermountain West. In addition to the main library on the BYU campus, regional film centers for Church-produced motion pictures are maintained in New York City, Los Angeles, Lethbridge, Idaho Falls, and Mesa. A large stock of motion picture, filmstrip, slide, overhead, and opaque projectors, as well as screens, portable tape recorders, and other special equipment are maintained and made available to faculty members.

The instructional materials and equipment scheduling desk for Educational Media Services is located just inside the west door of the Herald R. Clark Building.

ELECTRONIC MEDIA DEPARTMENT

The Electronic Media Department is organized to provide the services of designing, installing, operating, and maintaining electronic equipment and systems on campus. This department also provides the services of audio recording, video distribution, repairing all types of electronic and audio-visual equipment, and designing and producing of specialized electronic teaching equipment as desired by the academic areas. To achieve the above, the department is divided into four sections.

The Audio Operations Section may be contacted for audio recording of academic or student functions, the purchase of previously recorded devotionals, forums, academic programs, student activities, etc., and for any type of public address that may be desired (including that of a sound truck).

The Engineering Section provides the engineering for and the design of electronic system installations on campus. This includes development and construction of prototype equipment for classroom teaching and laboratory situations.

The Installation Section provides audio, video, and teaching systems for new buildings, as well as for old constructions. Existing installations can also be reviewed for redesign or modifications to meet new needs.

The Repair Section repairs radios, televisions, walkie-talkies, tape recorders, all types of audio-visual equipment, and most other kinds of electronic equipment.

MEDIA RESEARCH AND EVALUATION

The newly organized Media Research and Evaluation Department serves the entire academic program of the University. In evaluating and developing effective educationally supported teaching programs, qualified personnel work directly with University faculty to benefit the student. New media developments, as well as established teaching processes, are recommended where they seem to fit the curriculum best. Both faculty and students are invited to consult with this department.

Motion Picture Production

The Motion Picture Production Department is responsible for the production of documentary, historical, educational, and training films relating to the program of the Church and the University. These films are used in the public relations and educational programs of the Church, of the University and of other schools, colleges, and universities.

The Motion Picture Studio is located on the Carterville road near the Provo River two miles north of the campus. It is one of a very few motion picture production studios operated by a University.

Two sound stages give the studio a versatility for erecting a wide variety of sets. Animation facilities are available as well as equipment to make films on location and at the studio. Filmstrips utilizing live models and sets are also produced.

PHOTOGRAPHIC SERVICES

The Photographic Services Department is established to provide economical photographic service to students, faculty, and research and administrative departments. Modern production equipment is utilized to provide services for portraits, commerical instrumentation and industrial photographs, copy work, news requirements, microfilms, color prints and transparencies, and publications illustrations. Family and group photos, aerial pictures, publicity shots, and identification poses are regularly made by experienced personnel. Located in the Wilkinson Center are modern, fully equipped photo studios and darkrooms.

COMPUTER RESEARCH CENTER

The Computer Research Center was established in 1958 with the installation of the IBM 650 computer. In December 1963 a large-scale IBM 7040 computer was installed. An IBM 1401 computer, installed in August 1964, assists in the card handling and printing for the IBM 7040. Supporting punched-card equipment is available in the center. A new IBM 360/50 is scheduled for installation during the summer of 1968.

The primary objectives of the center are to encourage research, to provide instruction in computer science and technology, and to serve the administrative data processing needs of the University. The computing facilities are available to all faculty and students. Participation by everyone is encouraged.

Research is enhanced by using the powerful arithmetic and logical processing capabilities of the computer. It not only can perform numerical calculations, but also can process symbolic representations of data from all fields. In addition to its use as a tool in processing data from other fields, research is encouraged on new computer programming and application techniques. Instruction is given in several departments covering computer fundamentals and advanced applications, and frequent noncredit seminars are given on various computer-related topics.

The center, with several full-time staff members and a number of research assistants, serves the entire campus. Each year a few openings exist for student assistantships. Competition is keen, and students should not plan to obtain an appointment until they have discussed their qualifications with the director. Additional information may be obtained at the center, located in the basement of the Abraham O. Smoot Administration and General Services Building.

FINANCIAL SERVICES

Financial Services is responsible for the collection, disbursing, recording, and reporting of all University monies. The following departments have been set up to facilitate these services:

Treasurer's Office

The Treasurer's Office has the responsibility to receive all funds from all sources through its central or subsidiary offices and to issue proper receipts for said funds. It also has the responsibility to pay on time all University obligations such as invoices, travel claims, reimbursement claims, wages, salaries, etc.

Accounting Office

The Accounting Office has the responsibility to keep adequate records of receipts, expenditures, commitments, and budget allocations; to charge expenditures paid by the University and credit income received by the University to the proper accounts; to keep all accounts and records up to date; and to submit monthly current statements to the various phases of the University administration of the accounts or funds for which they are responsible.

Payroll Department

The Payroll Department is responsible to prepare for processing the payroll for the entire University and to maintain adequate and proper payroll records.

Internal Auditing Department

The Internal Auditing Department is responsible to see that policies and procedures of the University are properly and effectively carried out, that University funds are adequately controlled and properly handled, and that all assets of the University are properly maintained, controlled, and accounted.

Budget and Procedures Office

The Budget and Procedures Office assists in the preparation, presentation, allocation, and control of the University budget. It is responsible to review all systems and procedures of the University and to assist in the development of new, improved procedures where necessary.

Financial Aids Office

The Financial Aids Office administers student loans and grants-in-aid. See Student Financial Assistance Section for further details.

Telephone Office

The Telephone Office handles all University calls, both on campus and long distance. Presently there are over 2,000 telephones connected with the University central switchboard.

UNIVERSITY PERSONNEL SERVICES

The University Personnel Services is made up of units which provide services to students and faculty in personnel and placement areas. Material following provides identification and descriptions of these areas and their responsibilities.

Placement Center

The Placement Center assists graduating students and alumni at all degree levels in locating career positions in business, industry, government, and education. This is done through a combination of recruiting visits to the campus, job-listing contacts, and individual counseling sessions with members of the Placement Center staff. The Placement Center provides this service to graduates from all of the University's departments. It works in close cooperation with deans and department chairmen in maximizing the number of contacts available for students.

The Placement Center also maintains a complete placement library where interested students may find books, articles, magazines, and brochures which will acquaint them with organizations in which they may be interested. These materials are also helpful on such matters as how to write letters of application, how to prepare a resumé, and how to conduct oneself in a personal interview.

Students are urged to register with the Placement Center in the fall of the year in which they receive their degree. Early registration enables the Placement Center to give the most effective possible assistance in helping each graduate to find employment.

Personnel Department

The Personnel Department has responsibility for the employment of full-time staff personnel, and under the vice-president of business affairs it is responsible to assist in employment of administrative personnel.

The department includes a Training, Education, and Safety Division, the purpose of which is to effect and improve skills of all full-time nonacademic personnel through various types of training programs. This division also promotes safety in all departments of the University and attempts to improve employee relations through the publication of a campus newspaper.

The Benefits Office provides assistance to staff, administrative, and faculty personnel in relation to the University Benefits Program. Information and applications for medical insurance and for the retirement annuity program are available in this office. University employees also may obtain assistance from the Benefits Office with respect to tuition remission, parking stickers, bookstore discount cards, activity cards, remembrance fund, and other programs.

The Personnel Department also provides service to the University with respect to salary administration, employee records, recruitment, and student employment.

UNIVERSITY PRESS

On September 1, 1967, the University Press was organized. It consolidates formerly separate departments and adds new ones to form a complete publications service consisting of the following areas: Director's Office, Graphic Communications, University Publications, Printing Service, Publications Sales, and University Mail Services. Under a separate program student publications are coordinated by a faculty adviser who works with student editors on student publications. All departments of the University Press, with the exception of the post office facilities, are located in the University Press-Food Services Building at 1700 North and 700 East.

University Publications

The Department of University Publications edits all publications to insure correctness, accuracy, and a university standard of writing in every respect. In addition, it screens publications to avoid duplication and overlapping of content. This department also assumes primary responsibility for compiling and publishing the general catalog of courses, publications which introduce the University and the programs of colleges within the University, commencement programs, dedicatory booklets, and other general publications. In addition, it produces speeches of the year, Education Week publications, textbooks by faculty members for use on the campus, periodicals in several fields, monographs, and books.

Graphic Commmunications

The Graphic Communications Department provides design, page layout, and art work for University publications. It is responsible to see that all publications are professional in appearance, inviting to read, and designed for maximum communicaton to the reading public involved.

Printing Service

Formerly called the BYU Press, the Printing Service has extensive facilities for the production of both offset and letterpress printing. The Printing Service is responsible for the printing of the student daily newspaper, the yearbook, and numerous catalogs, brochures, bulletins, and office forms. All types of printing, including color work, are represented in a typical day's production in this second largest printing press establishment in the state.

Publication Sales

The Publication Sales Department stores and keeps inventory of all general University publications. It also promotes and sells books, monographs, speeches of the year, periodicals, and pamphlets offered for sale to the reading public. It accepts and fills mail orders and places publications in retail outlets for resale.

University Mail Services

The University Mail Services consists of a bulk mailing department, a postage and mailing department, and a BYU branch of the U.S. Post Office. Complete mail services are provided, including delivery and collection of mail to University offices, sale of stamps, mailing of letters and packages, providing of mailing lists for bulk mailing, and processing of such mail.

POST OFFICE

The Postage and Mailing Department is located in the Wilkinson Center. Its function is to pick up and deliver all of the intercampus mail and to pick up and meter all of the outgoing U. S. mail. With certain exceptions, two deliveries and three pick-ups are made each day on the campus.

Directory service is available for all mail addressed to Brigham Young University that does not indicate the department for which it is intended. This is true also for mail sent to students in care of Brigham Young University. Whenever possible, mail should show a definite address for students and should be addressed to a specific room and building for faculty and staff to avoid special handling and delay. Mail then will be delivered directly to the proper address or building by the U. S. postal carrier.

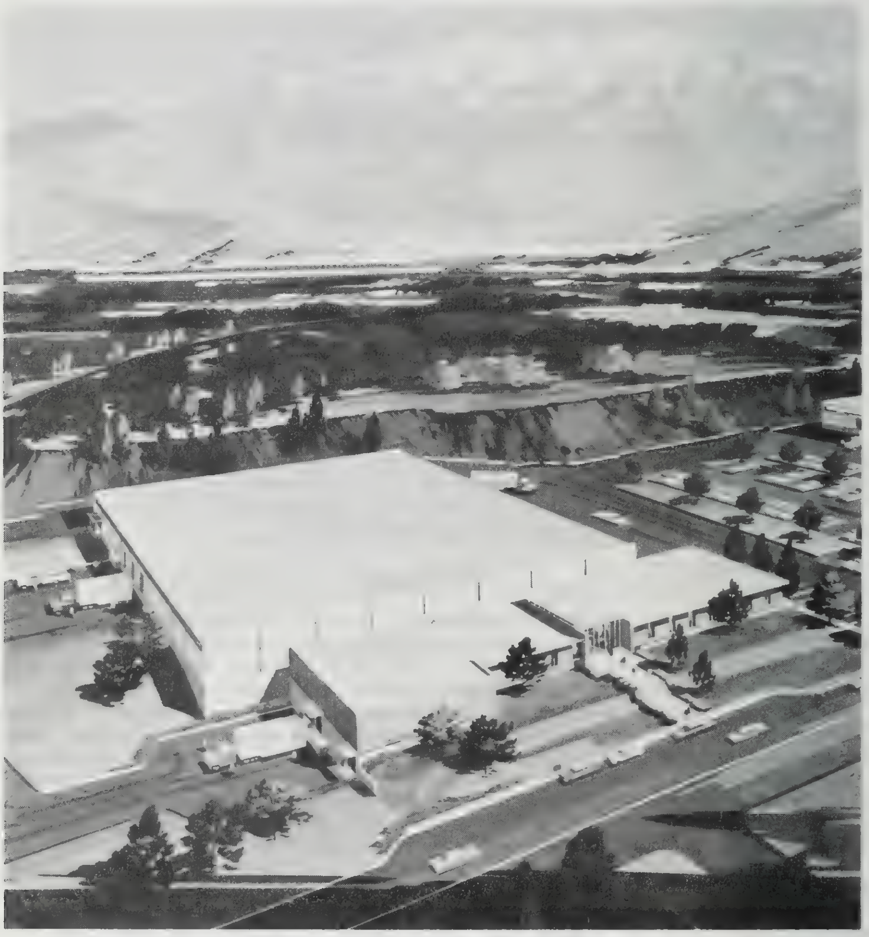
A U.S. Post Office, University Station, also is located in the Wilkinson Center, where all regular postal services are available. Here students may receive and send mail, purchase stamps and money orders, etc. Individual rental boxes are available for student use, and a stamp vending machine is available for stamp purchases after regular postal hours.

SELF-SERVICE POSTAL CENTER

A self-service postal center is located near the peripheral road of the campus west of Heritage Halls. Complete facilities for mailing of letters and packages are available on a twenty-four-hour-a-day basis.

WILKINSON CENTER

The Ernest L. Wilkinson Center serves as the focal point of informal education and out-of-class activities for the entire University family. The program is concerned with individual growth. Student government committees plan programs to share experiences with students and faculty. Facilities provide a congenial setting for meals, games, hobbies, music, art, and interpersonal exchange. Our objective is to give maximum opportunity for self-realization and growth and a climate of social and intellectual competency to help bridge the gap between the school and the community.



Artist's conception of new University Press-Food Services Building

Graduate School

Graduate School

Wesley P. Lloyd, Dean (208 ASB)

GENERAL INFORMATION

History and Purpose

The first graduate offerings of Brigham Young University were established in 1918. The Graduate School now offers doctoral-degree programs in more than 35 fields, distributed through 21 departments, and master's-degree programs in more than 80 fields, distributed through 45 graduate departments. Thus, a department may be responsible for the operation of the graduate program in several fields. In some circumstances, one field may include offerings from several departments. The departments fall within the areas of biological and agricultural sciences, business, education, family living, fine arts and communications, humanities, industrial and technical education, physical and engineering sciences, physical education, religious instruction, and social sciences.

Administration of the Graduate School

The Graduate Dean. The dean of the Graduate School, as immediate administrator of the graduate program of the University, is responsible, under authorization of the academic vice-president and the President, to execute policy and procedure of the Graduate School. He serves as chairman of the Graduate Council and conducts meetings of the graduate faculty.

The Graduate Council. The chief administrative body for the graduate program is the Graduate Council, which includes the dean of the Graduate School as chairman, the director of research, four members of the graduate faculty elected at large for terms of three years, and one member of the graduate faculty elected for a three-year term from each of the areas of subject matter included in the undergraduate colleges. The academic vice-president and the director of libraries are ex officio members of the council. The Graduate Council is empowered to act for the graduate faculty on all student petitions and on departmental requests for approval of faculty members for temporary assignments to graduate instruction and supervision. The council initiates proposals for policy and procedure regarding the graduate program.

The Graduate Faculty. The faculty of the Graduate School consists of members of the general faculty who are approved by the dean of the Graduate School from among those who hold the rank of professor or associate professor, or assistant professor with a doctoral degree, and others approved by the Graduate Council. It is the responsibility of the graduate faculty to formulate and recommend University-wide requirements for all graduate degrees and to recommend regulations and facilities to promote the scholarly activities and research interests of graduate students.

The general provisions of the graduate programs are established by the graduate faculty, subject to review by the academic vice-president or the President of the University. Special consideration is given to the circumstances and needs of each department or doctoral area. Programs are established on a broad base to permit the departments and the Graduate School to regulate specific requirements. The specific requirements for a given degree are proposed by the department concerned and reviewed by the Graduate Council, the dean of the Graduate School, and the administration.

GENERAL REQUIREMENTS

Admission to the Graduate School

Admission to the Graduate School is contingent upon completion of the bachelor's degree. Therefore, all eligible students holding the bachelor's degree will register in the Graduate School.

New Admission Requirements for Nondegree and Degree-Seeking Students

Registration packets will be prepared for all students who were enrolled as graduate students in day school during the preceding Spring Semester or during the two preceding Summer School terms. Any student planning to return to the University after graduation (with the bachelor's degree) will be required to complete a readmission application at least a month prior to registration in order to have a packet prepared for him.

All new students making application on a nondegree or degree-seeking basis must pay a $10 nonrefundable application fee. This fee must accompany the application and reach the Graduate Admissions Office, D-251 Smoot Building, by the deadline date for the semester or session for which the student is applying. New students are those who have never attended regular daytime classes.

Requirements for Admission on a Degree-Seeking Basis. For admission as a degree-seeking graduate student an applicant must present a 3.0 (B) grade-point average during his latest 60 semester hours of academic work or during a period approved by the department and the dean of the Graduate School. The applicant may through qualifying examinations be required to furnish additional evidence concerning his ability to pursue graduate work in his major field. This may include capacity for research or creativity, facility in written and oral expression, or appropriate professional objectives. Other requirements may be prescribed.

A student whose native language is not English is cautioned that adequate command of the English language is indispensable to successful graduate work. He must include with his application for admission a statement from a responsible official indicating that the applicant knows how to read, write, speak, and understand the English language sufficiently well to be able to pursue a satisfactory program of study on the graduate level. Admission of students from foreign countries ordinarily will be granted on a provisional basis pending the applicant's experience on the campus and his opportunity to demonstrate ability to do successful graduate work.

It is expected that before a student may do graduate work in an academic department he will have an appropriate background in that field. Ordinarily this background is obtained by completing an undergraduate major in the field. A student who contemplates doing graduate work in a field other than his undergraduate major will be required to complete, without credit toward the degree, the appropriate courses to make up for this deficiency.

Procedure for Admission on a Degree-Seeking Basis. To be admitted to the Graduate School on a degree-seeking basis, a student should file with the Office of the Graduate Dean an application which includes the following: (1) forms for admission or readmission to the Graduate School, (2) two transcripts of all previous college work (if that work was **not** done at Brigham Young University); and (3) three letters of recommendation. Two of these letters should relate to the student's academic ability and the third to his character. These letters should be sent directly to the Office of the Graduate Dean by those making the recommendations. Forms for application and for letters of recommendation are provided by the Office of the Graduate Dean.

The forms referred to above are evaluated by the department in which the student intends to major and by the dean of the Graduate School. Permission to register as an unclassified student should not be confused with permission to register as a degree-seeking graduate student. Admission to either classification is initiated by the student and authorized by the dean of the Graduate School. Notice of acceptance as a degree-seeking student is sent to the applicant from the Office of the Graduate Dean.

Students who do not have their applications filed by the deadline date cannot be assured that their applications will be acted upon by registration time. Refer to paragraph on new admission requirements for nondegree and degree-seeking students.

Provisional Degree-Seeking Students. The student whose latest two years of academic work is between 2.5 and 3.0 (B) or who matriculated from a university which is not accredited, may be admitted on a provisional classification upon recommendation of his department chairman and the approval of the graduate dean. A student classified as provisional, due to grade point, shall be required to submit a minimum of 12 semester hours of graduate or approved upper-division credit with a "B" average or higher before being reconsidered by his department for full degree-seeking status. Graduate or approved upper-division credit in an amount of 16 hours received while on provisional status may, if acceptable to the department, be counted toward a graduate degree. For a special and significant reason an advisory committee may recommend that graduate or approved upper-division credit beyond 16 hours and not in excess of 21 hours earned during provisional status be granted toward the degree. Final action on such a request is the responsibility of the graduate dean.

Admission on a Nondegree Basis. A student with the bachelor's degree may register on a nondegree basis for a wide variety of courses for which he is prepared. Credit earned during nondegree classification will count toward a graduate degree only in a highly limited amount and then as recommended by the faculty advisory committee and approved by the graduate dean after the student has been admitted on a degree-seeking basis. No such credit can be used that carries a grade lower than a "B-." To be admitted to the Graduate School on a nondegree basis a student should file with the Office of the Graduate Dean an application for admission or readmission, furnish an official transcript of all college or university work other than that completed at Brigham Young University, show evidence of having received the bachelor's degree, and present an academic record of 2.0 or higher. Admission is by means of a registration permit issued by the Office of the Graduate Dean. Refer to paragraph on new admission requirements for all nondegree and degree-seeking students.

Graduate Credit for Seniors. If, during the last semester of the senior year, a candidate for a baccalaureate degree finds it possible to complete all requirements for such a degree with a registration of fewer than fifteen hours of undergraduate credit, he may register for graduate credit to the extent that the total registration shall not exceed fifteen hours during the semester. A form provided by the Office of the Graduate Dean, stating that all baccalaureate requirements are being met during the current semester, must be signed by the appropriate undergraduate dean and presented to the dean of the Graduate School at the time of such registration. This registration does not constitute permission to seek a higher degree, and such credit does not apply toward a higher degree unless it is later approved by the student's graduate advisory committee, and submitted on a course outline in the Office of the Graduate Dean.

Three-year master's-degree programs have been approved in accounting, physics, chemistry, and engineering. Under these programs, students in these departments are authorized to take a limited amount of graduate work before the final semester of the senior year.

Student Load. An academic load for graduate students not employed part time is from 9 to 15 semester hours or their equivalent. Twelve hours is a standard graduate load. Graduate teaching assistants are required to carry a minimum of 6 hours of credit approved by the registration adviser and the dean of the Graduate School, but are not eligible for the maximum registration load. A one-half time graduate teaching assistant should not expect a registration authorization for more than 9 semester hours. Full-time employees should register for not more than 5 semester hours. Due to the depth required in graduate study, students usually should take less than the maximum load permitted.

Scholastic Standards. A grade-point average of 3.0 for all credit applying toward the degree is required of any student earning a degree in the Graduate

School. A degree-seeking student whose cumulative grade-point average, while registered in the Graduate School, falls below 2.7 shall have his academic record reviewed by the department chairman and the graduate dean to determine whether or not he shall remain on degree-seeking basis. Graduate students whose grade-point averages fall below 2.5 cumulative in credit applying toward the degree will be placed on immediate academic probation for one semester with opportunity to raise the grade-point average to 2.7 or higher. A student with a cumulative grade-point average under 2.0 is not eligible for registration in the Graduate School under any classification.

Graduation. A student, when contemplating graduation, should secure from the Office of the Graduate Dean an application for graduation form and pay the graduation fee of $20 at the Treasurer's Office. This should be done not later than December 15 for June graduates and February 15 for August graduates and before submitting the thesis or dissertation to the Office of the Graduate Dean for approval as a basis for scheduling the final examination. A $3 late fee will be charged if graduation fee is paid after the above dates.

All graduating students must attend the graduation exercises unless they have made satisfactory explanations of absence and have been officially excused under the authority of the President of the University. The request to be excused from the commencement and/or convocation exercises must be presented in writing to the Dean of the Graduate School, D-208 Smoot Administration Building, at least two weeks prior to commencement. Extreme emergencies of either illness or death in the family are the only exceptions to this requirement. Students not officially excused from these exercises will not be graduated until they attend a later commencement.

GRADUATE DEGREE PROGRAMS OFFERED BY DEPARTMENTS

Doctor of Philosophy

- Botany
- Chemistry
  - Analytical-Physical Chemistry
  - Biochemistry
  - Inorganic Chemistry
  - Organic Chemistry
  - Physical Chemistry
- Child Development and Family Relationships
  - Child Development
  - Family Relationships
  - Marriage Counseling
- Engineering Sciences
  - Chemical Engineering Science
  - Civil Engineering Science
  - Electrical Engineering Science
  - Mechanical Engineering Science
- French and Italian
  - French
- Geology
  - Economic Geology
  - Mineralogy and Petrology
  - Paleontology
  - Stratigraphy and Sedimentation
  - Structural, Field, and Dynamic Geology
- Germanic and Slavic Languages
  - German
- Graduate Department of Education
  - Educational Psychology
- Graduate Studies in Religious Instruction
  - Bible and Modern Scripture
  - History of Religion
- History
- Microbiology
- Music
- Physics
- Psychology
  - Clinical Psychology
  - Social Psychology
- Sociology
- Spanish and Portuguese
  - Spanish
- Speech and Dramatic Arts
  - Dramatic Arts
- Zoology and Entomology

Doctor of Education

- Graduate Department of Education
  - Educational Administration
  - Educational Psychology
  - Elementary Curriculum and Instruction
  - Junior College Administration
  - Physical Education
  - Secondary Curriculum and Instruction

Doctor of Religious Education

- Graduate Studies in Religious Instruction
  - Religious Education

Master of Arts

- Anthropology and Archaeology
  - Archaeology
- Art
  - Painting and Sculpture
  - Design and Crafts
- Classical and Asian Languages
  - Latin
- Communications
- English
  - American Literature
  - English Literature
- French and Italian
  - French
- Germanic and Slavic Languages
  - German
- Graduate Department of Education
  - Counseling and Guidance
  - Educational Administration
  - Educational Psychology
  - Elementary Curriculum and Instruction
  - School Psychology (interdepartmental)
  - Secondary Curriculum and Instruction
  - Special Education
- Graduate Studies in Religious Instruction

        - Bible and Modern Scripture
        - History of Religion
- History
- Institute of Government Service
    - International Administration
- Latin American Studies
- Linguistics
- Music
    - Music Education
    - Music Theory
    - Musicology
- Physical Education
- Political Science
    - American Government and Politics
    - Foreign Governments and Politics
    - International Relations
    - Political Theory
    - Public Administration
    - Public Law
- Recreation Education
- Spanish and Portuguese
    - Portuguese
    - Spanish
- Speech and Dramatic Arts
    - Interpretation
    - Public Address
    - Theatre and Dramatic Arts

Master of Science

- Agronomy and Horticulture
    - Agronomy
    - Animal Science
- Botany
- Business Education
- Chemical Engineering Science
- Chemistry
    - Analytical-Physical Chemistry
    - Biochemistry
    - Inorganic Chemistry
    - Organic Chemistry
    - Physical Chemistry
- Child Development and Family Relationships
    - Child Development
    - Family Relationships
- Civil Engineering Science
- Economics
- Electrical Engineering Science
- Food and Nutrition
- Geography
- Geology
    - Economic Geology
    - Mineralogy and Petrology
    - Paleontology
    - Stratigraphy and Sedimentation
    - Structural, Field, and Dynamic Geology
- Health and Safety Education
- Industrial Education
- Institute of Government Service
    - Public Administration
- Mathematics
- Mechanical Engineering Science
- Microbiology
- Physical Education
- Physics
- Psychology
    - General Psychology
    - School Psychology (interdepartmental)
- Sociology
- Speech and Dramatic Arts
    - Speech Pathology and Audiology
- Statistics
- Zoology and Entomology

Master of Accountancy

- Accounting

Master of Business Administration

- Business Management

Master of Civil Engineering

- Civil Engineering Science

Master of Education

- Graduate Department of Education
    - Counseling and Guidance
    - Educational Administration
    - Educational Psychology
    - Elementary Curriculum and Instruction
    - Instructional Media
    - Reading Specialist
    - School Psychology
    - Secondary Curriculum and Instruction
    - Special Education

Master of Fine Arts

- Art

***Master of Engineering Science**

- Engineering Sciences
    - Chemical Engineering Science
    - Civil Engineering Science
    - Electrical Engineering Science
    - Mechanical Engineering Science

Master of Health Education

- Health and Safety Education

Master of Industrial Education

- Industrial Education

Master of Library Science

- Graduate Department of Library Science

Master of Music

- Music
    - Organ
    - Piano
    - Voice

Master of Recreation Education

- Recreation Education

Master of Religious Education

- Graduate Studies in Religious Instruction
    - Religious Education

Minors are offered in the fields listed above in addition to the following fields:

- Agricultural Economics
- Applied Music
- Basic Chemistry
- Business Management
- Educational Philosophy and Programs
- Philosophy

Departmental Requirements. Special departmental requirements for advanced degrees are listed under each major department.

GRADUATE DEGREE PROCEDURE AND REQUIREMENTS

Doctor of Philosophy Degree

Classification of Students. Students admitted to the Doctor of Philosophy degree program are classified as **doctoral applicants** and **doctoral candidates.** The student becomes a doctoral applicant on recommendation by his department chairman. The department will normally require an examination or other screening procedure prior to this recommendation. The student is admitted to candidacy after meeting conditions for admission to candidacy as outlined in the departmental write-ups.

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*In cooperation with University of Utah, Utah State University and Brigham Young University.

Advisory Committee. The student's program and his dissertation are developed under the direction and supervision of an advisory committee. The committee for a student working for the Doctor of Philosophy degree consists of at least three members. These members are nominated by the student from the graduate faculty of his major and minor or supporting fields, in consultation with the chairman of his major department and with the approval of the dean of the Graduate School. The chairman of the advisory committee is a representative of the major field. All work which is to apply toward the Doctor of Philosophy degree must be approved by the advisory committee.

As soon as his program of study is determined in consultation with the advisory committee, the student should supply each member of the committee with a copy of the program, and he should file with the Office of the Graduate Dean a properly signed copy. Forms for this filing are available in the Office of the Graduate Dean.

The membership of the advisory committee may be changed with the approval of all prospective members of the newly constituted committee, the chairman of the major department, and the dean of the Graduate School. After such a change the student reviews his entire program with the new committee.

Academic and Residence Requirements. The Doctor of Philosophy degree is awarded for distinguished attainment in a recognized field of learning, not merely for the completion of courses of study. The student must select a major field of study and at least one minor or supporting field approved by the department chairman and the dean of the Graduate School. Specific requirements in these fields are described in departmental write-ups.

A full semester of residence credit is defined as from nine to fifteen hours in course work or the equivalent in research per semester. The advisory committee has authority to decide what work will be accepted to meet these requirements, and may accept or require a maximum of two years of full-time study at another university. Ordinarily two years of full-time course work or research or its equivalent is to be taken on the Brigham Young University campus. At least two consecutive semesters of work during each of which a student is registered for not less than 9 semester hours must be taken on the Provo campus.

Language Requirement. Before completing his comprehensive examinations and being admitted to candidacy, the student must present satisfactory evidence of completing the foreign language requirement. This may be accomplished under either of the following options:

Option I. Two-language requirement for the Ph.D. degree:

Any one or a combination of the following provisions meet the two-language requirement. One of the languages must be French or German, or Russian when this language has been recommended by the department and authorized by the Graduate Council.

A. Successful completion of the ETS examination (given only in French, German, Russian, or Spanish). Dates of and application for these examinations are made with the BYU Testing Service, in Room B-238 ASB.

B. Successful completion of language courses 95 and 96 in either or both acceptable languages. (Offered only in French, German, or Spanish.)

C. Successful completion of sixteen semester hours of credit in either or both of the foreign languages that are approved by the major department and the Graduate Council for the degree program.

D. For a department where a substitute for one language in the two-language requirement has been approved through the Graduate Council, students may be assigned the academic discipline approved for the department. This usually includes a combination of statistics and computer courses.

If the student chooses as his second language one other than French, German, Spanish, or Russian, he must pass a special examination prepared and administered by the appropriate language department. These examinations are scheduled through the Office of the Graduate Dean at least two weeks prior to the arranged date of the examination with the appropriate language department and may be taken the first time without the payment of any fee or special permission. Subsequent attempts must be by written permission of the chairman of the academic department and payment of a $10 fee.

Option II. Single-language requirement for the Ph.D. degree:

Fulfillment of this requirement must be in French or German, or in Russian when this language has been recommended by the department and authorized by the Graduate Council.

The foreign language requirement for the doctoral degree may be met through intensive study of one language leading to thorough familiarity with it. The objective of this requirement is to produce a scholar who can read the literature in an acceptable foreign language with fluency; one who can also converse with colleagues in his field in that particular language. Fulfillment of this objective would be manifest by examination that would demonstrate (1) the candidate's ability to translate literature in the field of specialization without the use of a dictionary with a competent level of speed and accuracy, and (2) his ability to converse in the language with acceptable facility.

In lieu of an examination, this requirement can be met by completion of courses 321, 415, and 416, or their equivalent in the language authorized with a grade of "B" or higher. Ordinarily, completion of this requirement will require 25 semester hours. Students familiar with the language may be able to earn the first 16 hours credit by special examination, thereby qualifying them to register directly in courses 321, 415, and 416 or their equivalent.

Comprehensive Examination. The student must pass a comprehensive examination in his doctoral fields under the direction of his major department. In this examination the minor department will be represented by the present minor member of the advisory committee representing that department. This examination will normally be given at the end of the second year of graduate study.

Admission to Candidacy. Satisfactory completion of a comprehensive examination, the language requirement, and submission of a dissertation title card and prospectus approved by an advisory committee, are necessary for admission to candidacy for the Doctor of Philosophy degree. The student has the responsibility of filing with the Office of the Graduate Dean a form, provided by the same office and signed by the advisory committee and the chairman of the major department, stating that all conditions for admission to candidacy have been met and that the dissertation subject has been approved. Notice by the dean of the Graduate School then admits the student to candidacy for the degree. This will normally be done after the completion of two years of graduate work.

Dissertation and Final Oral Examination. After being admitted to candidacy, the student, under the direction of his advisory committee, pursues original research toward an acceptable dissertation.

The dissertation (including an abstract not exceeding in length 60 lines of 60 spaces each) approved by members of the advisory committee and the department chairman, must be submitted for approval to the dissertation secretary in the Office of the Graduate Dean two weeks prior to scheduling the final oral examination. Copies of the dissertation are then to be distributed to members of the oral examination committee for review before the oral is given.

Following the examination and the final revision of the dissertation, the student brings the original and three copies of the dissertation, plus two extra copies of the abstract (three if the student is majoring or minoring in education) signed by members of the advisory committee and the department chairman, to the Office of the Graduate Dean for final approval and authorization to submit to the library for binding. The student then will deliver the original and three copies of the dissertation to Room 112 J. Reuben Clark, Jr., Library and pay the $25 fee for publishing the dissertation through University Microfilm Incorporated. The library will also collect $2.75 for each copy of the dissertation to be bound or a minimum of $11. The student may secure further instructions regarding binding, microfilming, and publication of dissertations in the Office of the Graduate Dean.

Payment of the binding fee constitutes completion of graduation requirements. This must be done not later than fifteen days before graduation.

Students should not expect to complete final oral examinations and other requirements during periods when the University is not in regular session.

Not later than two weeks before the graduation date, the student must pass a final examination on his dissertation and applicable subject matter given by a committee of not fewer than five members: the advisory committee, plus such other members as the department chairman and the dean of the Graduate School may designate. Because of the time required for submitting the dissertation following the examination, it is strongly urged that no student take his final oral examination as late as the deadline date.

Time Limit. All academic credit applying toward the Doctor of Philosophy degree, exclusive of that earned in completion of the master's degree, must be completed within nine years.

Under the following conditions academic work taken in residence beyond the regularly-specified time limit may be accepted toward a graduate degree: The department making a request for an exception to the time-limit rule will make its proposal to the graduate dean with reference to each student case and on authorization will administer a special examination on the course work in question. The graduate dean shall be fully informed regarding the specific examination, including the date on which it is to be administered and the results. The student will be permitted to count toward a graduate degree courses successfully cleared through such examinations.

Doctor of Education Degree

Admission Requirements. For admission to degree-seeking status as a doctoral applicant the student must have completed 22 semester hours of education or possess certification as a teacher, must have completed two years of successful professional experience, possess demonstrable acquaintance with the field of education and be admitted by the Graduate School.

Classification of Doctoral Students. Students seeking the Doctor of Education degree are classified as **doctoral applicants** and **doctoral candidates.** The student becomes a doctoral applicant on recommendation by his department chairman. The department will normally require an examination or other screening procedure prior to this recommendation. The student is admitted to candidacy after meeting conditions for admission to candidacy and before registering for the dissertation and internship.

Advisory Committee. When the student successfully passes the entrance requirements, he is expected to consult with his department chairman to arrange for his advisory committee. The chairman and one member of the advisory committee must be in the student's major field, and there must be at least two additional members representing two other fields. The chairman of the major department is a member ex officio. All work which is to apply toward the Doctor of Education degree must be approved by the advisory committee.

As soon as his program of study is determined in consultation with the advisory committee, the student should supply each member of the committee with a copy of the course outline. He should file one copy, signed by the committee members, with the Office of the Graduate Dean and one copy with the Graduate Records Office of the College of Education.

The membership of the advisory committee may be changed with the approval of the graduate committee in education and the dean of the Graduate School.

Academic Requirements. The Ed.D. degree is awarded for distinguished attainment in a recognized field of learning. The student must meet the planned program as established by his major department. The equivalent of a minimum of three years of full-time study beyond the bachelor's degree is required. Full-time study is defined as nine to fifteen hours in course work or the equivalent in research per semester. The advisory committee has authority to decide what work will be accepted to meet these requirements, and may accept or require up to two years of full-time study elsewhere. One year must consist of two consecutive semesters on the campus of the University, during which the student takes a minimum of one two-hour seminar each semester. There is no foreign language requirement. The student must demonstrate proficiency in statistics to the satisfaction of the advisory committee.

Admission to Candidacy. To be eligible for advancement to candidacy the student must pass the qualifying examination, final written examination and submit a dissertation title card and prospectus approved by his doctoral advisory committee. Notice from the Office of the Graduate Dean then admits the student to candidacy for the degree.

The Dissertation and Final Oral Examination. Research for the improvement of an educational program must be carried out under the direction of the student's chairman and advisory committee. The dissertation must be submitted under the time schedule established by the Graduate School and meet the required standards regarding publication.

A final oral examination is administered at the conclusion of the field project and may cover courses on the student's completed program in addition to the dissertation. Instructions regarding submitting the dissertation and the final oral examination are found on page 79 under the heading Dissertation and Final Oral Examination.

Time Limit. All academic work applying toward the Doctor of Education degree exclusive of that earned in completion of the master's degree, must be completed within a period not to exceed nine years.

Under the following conditions academic work taken in residence beyond the regularly-specified time limit may be accepted toward a graduate degree: The department making the request for an exception to the time-limit rule will make its proposal to the graduate dean with reference to each student case and on authorization will administer a special examination on the course work in question. The graduate dean shall be fully informed regarding the specific examination, including the date on which it is to be administered and the results. The student will be permitted to count toward a graduate degree courses successfully cleared through such examination.

Sixth-Year Certificate in Educational Administration

The sixth-year certificate in educational administration is offered for the preparation of school principals and supervisors, and is awarded after completion of requirements listed under the Graduate Department of Education.

Master's Degrees

Following admission to the Graduate School on a full or provisional degree-seeking basis, the student is responsible for proper clearance of the following forms and their due dates as designated. These forms can be obtained from the Office of the Graduate Dean, D-208 Smoot Administration Building.

Admission on a graduate degree-seeking basis and official formation of the advisory committee must be completed before the student registers for the last 15 semester hours of credit intended to apply toward the degree.

English 99. The English 99 form is due during the first semester of graduate work. Students who are required to register in English 99, Problems in Thesis Writing, a noncredit course, should take this course at the earliest possible time.

Advisory Committee. The advisory committee must be formed and the names of the members on file in the Office of the Graduate Dean prior to the student's registration for the last 15 semester hours of credit applying toward the degree.

The student's program and his thesis are developed under the direction and supervision of the advisory committee. The committee for the master's degree consists of two or more members. In a program offering a minor field, one member of the committee is to be selected from the minor field. The chairman, however, will be selected from the major department. These members are nominated by the student from the graduate faculty of his major and minor or supporting fields, in consultation with the chairman of his major department and with the approval of the dean of the Graduate School. This committee advises the student in his proposed program, approves the official course outline, advises him in registration, and directs his research and the work on his thesis. At least 15 hours must be taken after the advisory committee has been formed and must be approved by the advisory committee prior to registration. All credit which is to apply toward an advanced degree must be approved by the advisory committee.

An advisory committee may be changed with the approval of all prospective members of the newly constituted committee, the chairman of the major department, and the dean of the Graduate School. After such a change, the student reviews his entire program with the new committee.

Course Outline. The course outline constitutes the official program of the graduate student and is due in the Office of the Graduate Dean not later than one week following the appointment of the advisory committee and in all cases prior to registering for the last fifteen hours of credit applying toward the degree.

Revisions. When there is a needed change in the student's program, advisory committee membership, etc., a memo should be submitted by the student to the Office of the Graduate Dean recommending the revision and signed by all members of the advisory committee and the department chairman.

Title Card and Prospectus of Master's Thesis. Before beginning his research or creative work, the student must obtain approval of the thesis problem. He must file with the Office of the Graduate Dean a title card and a prospectus, both signed by the members of the advisory committee and the department chairman. This should be done prior to registering for the last semester of credit applying toward the degree.

Submitting Thesis or Project for Approval and Binding. The thesis or project (including an abstract not exceeding in length 60 lines of 60 spaces each) approved by members of the advisory committee and the department chairman, must be submitted for approval to the Office of the Graduate Dean two weeks prior to scheduling the final oral examination. Upon approval of the thesis or project by the dissertation secretary in the Office of the Graduate Dean, the orals may be scheduled and copies of the thesis or project are to be distributed to members of the oral examination committee for review before the oral is given. Following the examination, the final copies of the thesis or project, plus one extra original copy of the abstract (two if the student is majoring or minoring in education), signed by members of the advisory committee and the department chairman, are to be submitted to the Office of the Graduate Dean for final approval and authorization to submit to the library for binding. Graduation will occur only in the case of students who submit to the Office of the Graduate Dean the thesis binding receipt not later than 15 days before graduation.

Field projects are submitted for binding and filing in the library only on recommendation of a department.

Detailed directions for the form of the thesis are obtained from the major department.

Time Limit. Graduate credits are applicable toward the master's degree only within a six-year period from the time they are received. Students are counseled to complete their programs without notable interruption.

Under the following conditions academic work in residence taken beyond the regularly specified time limit may be accepted toward a graduate degree. The department making a request for an exception to the time-limit rule will make its proposal to the graduate dean with reference to each student case and on authorization will administer a special written examination on the course work in question. The graduate dean shall be fully informed regarding the specific examination, including the date on which it is to be administered and the results. The student will be permitted to count toward a graduate degree courses successfully cleared through such examinations.

Amount and Distribution of Credit. The master's research degrees require a minimum of 30 semester hours of credit and may be obtained by completing one of the options listed below. A department, after authorization by the Graduate Council, may function under either Option I or Option II.

Applicable to Options I and II is the provision that at least 21 credit hours must consist of courses for which there is a systematic body of subject matter. Each of such courses is to be identified with a given course number such as ordinarily identifies a formal course or seminar. Individual reading, thesis, research, and special problems may not be included in this total of 21 credit hours.

The master's thesis must carry a minimum of 6 but not more than 9 credit hours to be determined by the student's advisory committee. The thesis credit shall include such disciplines as review of the literature, all thesis research, and the writing of the thesis.

Option I. At least 15 semester hours, exclusive of thesis, must be in the major field and at least 9 semester hours in a minor field approved by the major department.

Option II. At least thirty hours must be in the major field or in direct support of the major field. Courses outside the major field and considered as in direct support of the major field must be specified. Such courses should not constitute more than 12 of the 30 credit hours. A department will be permitted to adopt Option II as a permanent policy on request of the department and on approval of the Graduate Council. The department need not list courses which are considered to be in direct support of the major field, but when Option II is used, the student's committee should consist of a representative from the major field and one from a supporting area.

A graduate student may have applied toward requirements for the master's degree a limited amount of credit earned by taking certain upper-division undergraduate courses which have been approved by the graduate advisory committee at the time of registration, or appearing on the course outline of a degree-seeking student. At least 20 hours of the credit for the master's degree must be in the 500 series or above and taken on the Brigham Young University campus. A minimum grade-point average of 3.0 is required in all work applying toward the degree.

Neither lower-division nor correspondence credit may be applied toward a graduate degree.

For specific information with reference to requirements for the professional degrees, see the departmental listings in the Graduate School Catalog.

Transfer Credit. Graduate credit acceptable to a student's advisory committee and not in excess of 10 semester hours may be transferred from another accredited university of the United States upon the approval of the student's advisory committee and the Graduate Council. Forms for petitioning for such transfers are available in the Office of the Graduate Dean. Credit transferred must represent work which is a fair and reasonable equivalent of corresponding work at this University. All transferred credit must be of grade "B" or better. At least twenty semester hours toward the master's degree must be taken on the Brigham Young University campus.

Final Oral Examination. The candidate for graduation must pass a final oral examination not less than 15 days prior to graduation. This examination cannot be scheduled until the student has submitted approved copies of his thesis or project to the Office of the Graduate Dean and secured the forms for scheduling the examination. On these forms the student will have listed by his department chairman the names of all members of the examining committee. Following the examination, the final signed copies of the thesis or project are to be submitted to the Office of the Graduate Dean for final approval and authorization to submit to the library for binding. Graduation will occur only in the case of students who submit to the Office of the Graduate Dean the thesis binding receipt not later than 15 days before graduation.

The examination committee for the master's degree will consist normally of at least four members. There must be at least two examiners from the student's major field and one examiner from the student's minor or supporting field. There shall be on the committee at least two examiners who are not members of the student's thesis advisory committee. The committee may consist of a minimum of three examiners if constituted as provided herein. In any case, two or more negative votes will constitute failure in the examination. Other members of the graduate faculty may attend the examination and enter the discussion, as nonvoting participants.

The final oral examination consists of a student's defense of his thesis and a searching examination into the student's preparation and competence in his major and minor or supporting fields.

Major Graduate Awards 1968-69

Information concerning major graduate awards and those offered through other sources is available through the Graduate Awards Office, D-227 Smoot Building.

BYU Fellowships and Scholarships

Qualifications. Fellowships and scholarships are awarded primarily on the basis of high academic achievement (3.5 cumulative grade-point average or higher) and are available to students in all areas of graduate study. One-fourth time assistantships may be held concurrently with fellowships. One-half time assistantships may be held concurrently with scholarships.

Value. Fellowships range from $500 to $2,000, including tuition and usual fees. Scholarships are awarded for amounts up to and including tuition and fees. Seventy fellowships and ninety scholarships are available.

Application. Applications for the academic year, beginning September, should be filed by **March 1.**

BYU Teaching Assistantships

Qualifications. Many departments employ graduate students as teaching or laboratory assistants. Teaching assistantships are awarded on the basis of scholastic accomplishment and competence to serve in a specific department.

Value. Remuneration, based on the amount of time devoted to assigned duties, varies from $500 to $2,500 per academic year.

Application. For application forms and information regarding teaching assistantships, write directly to the chairman of the academic department.

BYU Research Assistantships

Qualifications. Research assistantships are awarded to qualified students for half-time work on research projects under the supervision of a faculty member. A substantial number of research assistantships and research fellowships are available. Funds are provided by the University, the government, or private sources.

Value. Maximum remunerations for such assistantships vary from $2,000 to $2,400 per academic year, plus from $1,500 to $1,800 for full-time summer work.

Application. For application forms and information, write directly to the chairman of the academic department.

National Defense Education Act Title IV Fellowships

Qualifications. Three-year fellowships are available to outstanding graduating seniors or graduate students in eligible departments who desire to obtain a doctorate and teach on a university level. Graduate schools will receive notification of eligible departments about November 15. Applicants must be U.S. citizens, hold a bachelor's degree at beginning of tenure, and be admitted or pending admission to the Graduate School on a degree-seeking basis.

Value. A stipend of $2,000 for the first academic year, $2,200 for the second, and $2,400 for the third is provided, plus tuition and fees and $400 per eligible dependent. An additional $400 plus $100 per dependent is available for summer study.

Application. The University application deadline is **March 1.**

Higher Education Act Title V(C) Fellowships for Prospective Teachers

Qualifications. Two-year fellowships are available to outstanding graduating seniors in eligible departments interested in careers in elementary or secondary education. Graduate schools will receive notification of eligible departments about January 15. Candidates must be U.S. citizens, hold a bachelor's degree at beginning of tenure, and be admitted or pending admission to a graduate program leading to the master's degree.

Value. A stipend of $2,000 for the first academic year, and $2,200 for the second is provided, plus tuition and fees and $400 per eligible dependent. An additional $400 plus $100 per dependent is available for summer study.

Application. The University application deadline is **March 1.**

National Aeronautics and Space Administration Traineeships

Qualifications. Three-year traineeships are available to qualified graduating seniors or graduate students in approved departments who desire to obtain a doctorate in space-related areas. The dissertation topic must be applicable to the U.S. space program. Applicants must be U.S. citizens, hold a bachelor's degree at beginning of tenure, and be admitted or pending admission to the Graduate School on a degree-seeking basis.

Value. A stipend of $2,400 per year is provided, plus $500 per eligible dependent (up to $1,000) and tuition and fees.

Application. The University application deadline is **March 1.**

National Science Foundation Graduate Traineeships

Qualifications. Traineeships are awarded by the University to outstanding graduating seniors or graduate students in biological, engineering, physical, and social sciences who are U.S. citizens, hold a bachelor's degree at beginning of tenure, and are admitted or pending admission to the Graduate School on a degree-seeking basis leading to an advanced degree. Traineeships are tenable only at the granting institution.

Value. A stipend of $2,400 for the first level, $2,600 for the intermediate level(s), and $2,800 for the terminal level is provided, plus tuition and fees and $500 per eligible dependent. Traineeships are granted for one year and may be renewed up to a total of four years.

Application. The University application deadline is **March 1.**

National Science Foundation Graduate Fellowships

Qualifications. Fellowships are awarded by the National Science Foundation to outstanding graduating seniors or graduate students in biological, engineering, physical, and social sciences who are U.S. citizens, hold a bachelor's degree at beginning of tenure, and are admitted to the graduate school of their selected institution in programs leading to advanced degrees. Fellowships are tenable at the institution selected by the applicant. Scores obtained on the G.R.E. are required for each applicant.

Value. A stipend of $2,400 for the first level, $2,600 for the intermediate level(s), and $2,800 for the terminal level is provided, plus tuition and fees and $500 per eligible dependent. Fellowships are granted for one or two years and may be renewed.

Application. Office cards, indicating intention to apply, are available in the Graduate Awards Office in October. NSF sends each applicant the necessary forms. Applications must be returned by the first week in December.

National Institutes of Health Predoctoral Research Fellowships

Qualifications. Fellowships are awarded to outstanding graduating seniors or graduate students in biological sciences for training and research in health-related areas. Applicants must be U.S. citizens, hold a bachelor's degree at beginning of tenure, and be admitted to programs leading to advanced degrees. Fellowships are not awarded for study leading to the M.D., D.D.S., D.V.M., or other applied degrees. Each applicant must be accepted by a faculty sponsor who will supervise his training.

Value. A stipend of $2,400 for the first level, $2,600 for the intermediate level, and $2,800 for the third and subsequent levels is provided plus tuition and fees and $500 per eligible dependent. Fellowships are awarded for one year and may be renewed.

Application. Application kits may be obtained from the Graduate Awards Office. Applications may be submitted by **January 2, April 1,** or **October 1.** Awards will be announced five months after submission of applications, and awardees may activate their fellowships at any time during the twelve-month period following the granting of the award.

Danforth Graduate Fellowships

Qualifications. Fellowships are available to outstanding graduating seniors who plan college teaching careers and plan to study for the doctorate. Applicants, either single or married, must be less than thirty and show outstanding academic ability. Fellowships are open to persons of any citizenship for study in U.S. graduate schools.

Value. The present maximum annual stipend is $2,400, plus tuition, fees, and dependency allowance.

Application. The BYU liaison officer may nominate five students to the Danforth Foundation by **November 1.** All interested students should contact the liaison officer, Dr. Edwin B. Morrell, 270 Maeser, by September. All applicants must take the G.R.E. before the end of October.

Woodrow Wilson Fellowships

Qualifications. Fellowships are available to outstanding graduating seniors in the humanities and social sciences who plan college teaching careers. Candidates in mathematics and science, if U.S. citizens, must apply simultaneously for an NSF Fellowship and must accept it if that award is offered. Grantees must not be registered in graduate school at the time of nomination, must hold a bachelor's degree at beginning of tenure, and must attend graduate school at a university other than the undergraduate institution.

Value. A stipend of $2,000 plus tuition, fees, and dependency allowance is provided.

Application. Applicants must be nominated to the foundation by a University faculty member by **October 31.** Upon nomination, the student will receive the application forms from the foundation. Applications must be completed and returned by **November 20.**

Summer Session

Graduate students doing part of their work at the University during the summer will find a wide range of graudate courses suited to their purpose.
Summer School is divided into two terms. Students may register for a maximum of six credit hours per term.

Library Facilities

The Brigham Young University library presently is expanding its research collections on a major scale. With the completion of the J. Reuben Clark, Jr., Library Building in 1961 it was possible to bring together parts of the collection that had been temporarily housed in almost every major building on the campus. The general collection is available on open shelves on four of the five floor levels: two below and two above the ground floor. The central reference collection, the public catalog, the circulation desk, and the adminstrative offices are located on the ground level. An information booklet is available to assist students in the use of these new facilities. Study space is available on each floor interspersed with stack areas. Special study facilities are provided for the use of graduate students and other mature scholars.

With the growth of the collection an effort is being made to acquire those library tools necessary to a graduate research program. A well-trained staff is available to assist scholars in the use of the book collection and to interpret the specialized bibliographies, catalogs, guides, and indexes.

The University library contains an extensive collection of titles on microfilm and microcards. A wide selection of professional journals and of other current periodicals is also available, as well as local, regional, and national newspapers.

The facilities of the LDS Genealogical and Historical Library in Salt Lake City, which contains over 500,000 titles, also are available by special arrangement, as are collections of Utah and Mormon materials in the LDS Church Historian's Library in the same city.

The Graduate Catalog

For more detailed information on graduate degrees, admission to the Graduate School, and departmental offerings and requirements, refer to the Graduate School Catalog.

Book of Mormon figures on exterior wall of Clark Library

Colleges

Each college in Brigham Young University is an undergraduate college which offers work for the bachelor's degree only. All work beyond the bachelor's degree, in every department, is under the direction of the dean of the Graduate School.

College of Biological and Agricultural Sciences

Rudger H. Walker, Dean (106 HGB)

The departments in the College of Biological and Agricultural Sciences fall naturally into two primary divisions: biological sciences and agricultural sciences.

DIVISION OF AGRICULTURAL SCIENCES

Included in the Division of Agricultural Sciences are the Departments of Agricultural Economics, Agronomy and Horticulture, and Animal Science. Students taking their major work and supporting courses in these departments and in the related basic sciences may prepare themselves for successful careers in agriculture.

Agriculture always has been America's basic industry, and is more important today than ever. The agricultural industry has developed as rapidly as other industries in America in mechanization and efficiency of production. The men and women engaged in agricultural production and marketing, and in the related agricultural industries must have an understanding of the new scientific and technological developments that have taken place in agriculture. This, along with practical experience, will better prepare them to serve as farm managers and operators and as technicians in the various phases of agricultural production, marketing, research, and education and in the related agricultural industries.

All students interested in agriculture will be given an opportunity to obtain a broad understanding of the various phases of agriculture. In addition, they may specialize by taking a major in one of the departmental curricula. Students may choose a course of study that will prepare them for farm and ranch operation and management, for employment in related agricultural business or industries, for employment with governmental organizations under civil service, or for teaching and research. For certain kinds of work it will be necessary to place strong emphasis on preparation in the basic sciences and on graduate study for an advanced degree.

Students who have had a background of farm experience and training in vocational agriculture in high school, who are interested in agriculture, and who think they would enjoy working in the agricultural professions are encouraged to register in the College of Biological and Agricultural Sciences. Students who prepare themselves well usually have little or no difficulty in finding satisfactory employment.

AGRICULTURAL EDUCATION

Adviser: Rudger H. Walker

Students who wish to prepare for teaching agriculture should take a major in agricultural education and follow the curriculum outlined in the List of Courses Section under the heading Agricultural Education.

PREVETERINARY COURSE

Adviser: Keith H. Hoopes

Students planning to enter veterinary school may take their preveterinary training at Brigham Young University.

Certain entrance requirements are common to all of the veterinary schools in the United States. The courses listed below are designed merely as a guide to help the student fill these basic requirements. The student is advised to consult the catalogs of veterinary schools of his choice for specific entrance requirements that may affect him. In connection with his preveterinary curriculum the student is strongly urged to work toward a bachelor's degree, including course work in animal science and the basic sciences. A bachelor's degree intensifies the student's ability to understand the principles of veterinary medicine and provides an alternative should the student fail to enter veterinary school.

The following courses are included in the entrance requirements of most veterinary schools: English 111, 112; Mathematics 101, 105, 106; Chemistry 105, 106, 223, 351, 352; Zoology 105, 212, 213; Physics 201, 202, Botany 101; Microbiology 121; Animal Science 121, 153, and 207. Attention also is called to the general University requirements for graduation. Students planning to enter veterinary school are not exempt from these general education requirements.

DIVISION OF BIOLOGICAL SCIENCES

Included in the division of biological sciences are the Departments of Microbiology, Botany, and Zoology and Entomology. Students may take courses in any one of these departments to meet their general education requirements for studies in the biological sciences, or they may choose to major in one of these departments.

Courses offered in these departments enable students to obtain a general understanding of the fundamental principles of plant and animal life and the relationships of plants and animals to man and the world in which he lives. Consideration is given to the economic plants and animals used in agriculture and industry, the native and wild plants and animals, the beneficial and injurious insects and micro-organisms, and the parasites responsible for the diseases of plants, animals, and man. The conservation of our natural resources and the management of forest and range lands and wildlife resources are studied. Specialized courses are offered in each of the several branches of the biological sciences for those students who wish to major in one of these fields. Preparation for teaching and research is emphasized.

Students interested in medical technology, medicine, dentistry, forestry or veterinary science may obtain their preprofessional training in the Division of Biological Sciences. Suggested curricula to serve as a guide for students who wish to prepare for these professional fields are shown below.

PREFORESTRY COURSE

Adviser: Odell Julander

Students may prepare themselves for training in forestry by taking the preforestry curriculum during their first two years of college work. This program is under the supervision of the Department of Botany.

During the freshman and sophomore years students are registered for the basic science courses and the general education courses required for training in forestry. Upon completion of this preforestry program they may enroll in a professional forestry school for their major work.

Students should consult the faculty adviser of the preforestry curriculum for detailed information and for assistance in developing their class schedule for registration.

RANGE MANAGEMENT COURSE

Adviser: Joseph R. Murdock

Administration of the range management program is under the direction of the Department of Botany, but the range curriculum is drawn from courses offered in several cooperating departments. The complete course requirements are given in the Botany Section of this catalog.

Students should consult the faculty adviser in range management for detailed information and for assistance in developing their class schedules for registration.

PREPROFESSIONAL PLANS FOR MEDICAL AND DENTAL STUDENTS

It is strongly recommended that students who wish to prepare for medical or dental school select course work that will lead to the bachelor's degree. This will give the broad background desired by medical and dental schools, and also will prepare students to enter other professional work in the event their interest in medicine or dentistry does not continue.

Premedical and predental students may follow one of several plans to prepare themselves for professional school:

Plan I. Prior to entering a professional school, complete course work leading to a Bachelor of Science degree in any University department. The elective courses must include those minimum requirements listed in Plan III.

Plan II. Complete three years of specified work at Brigham Young University in the Department of Zoology and Entomology, and transfer to this University acceptable credit for the courses completed in the first year of medical or dental school, thereby satisfying the requirements for a baccalaureate degree. (See basic Medical Sciences Option under the Department of Zoology and Entomology.)

Plan III. Complete minimum course work required by a professional school for entrance, not including a baccalaureate degree. The student is advised to counsel with his University adviser in examining the subject requirements described in the school catalog for the school of his choice. About two years of selected course work will meet these minimum requirements for dental school while three years are required for the medical schools. For the most part the following courses are required: English 111, 112; Math. 101; 105 and 106 or 111; Chemistry 105 and 106, or 111 and 112; 351, 352, 354, 355; Physics 201, 202; Zoology 105, 212, and 213. In addition, some medical schools will require Chemistry 223 and Zoology 363, 373, and 376. These are **minimum** course requirements. These courses alone will not satisfy the requirements for a baccalaureate degree at Brigham Young University.

PREMEDICAL AND PREDENTAL COMMITTEE

Arthur O. Chapman, Chairman

The committee will give guidance to students in their course of study. Students who wish to prepare for entrance into a dental or medical school should consult the chairman of this committee for information concerning medical and dental schools on course work and procedures.

PREDENTAL HYGIENE

Adviser: August Jaussi

Schools of dental hygiene are located at most dental schools and at a few other colleges. The course of instruction is either two years in length, leading to the Certificate in Dental Hygiene, or four years, leading to the bachelor's degree in dental hygiene. The four-year program is strongly recommended. The two-year program may be entered directly after high school, although preference is given to candidates with some college training. The four-year program requires that the first two years be spent in college and the last two in a dental hygiene school. Details of the first two years of training will depend upon the hygiene schools to which the student applies and may be determined in consultation with the adviser. Students should have a catalog of the dental hygiene school in which they are interested when they consult with the adviser, as the program in each school varies considerably.

PREOPTOMETRY COURSE

Adviser: August Jaussi

The requirements for admission to schools and colleges of optometry are not identical. Typically, the requirements include courses in English, mathematics, physics, chemistry, and biology or zoology. Schools have varied requirements in psychology, social sciences, literature, philosophy, and foreign language. For details consult optometry school catalogs and counsel with the preoptometry adviser.

PREPHARMACY COURSE

Adviser: August Jaussi

Two years of the curriculum of any pharmacy school may be completed at this campus. For specific details the student should consult the adviser.

College of Business

Weldon J. Taylor, Dean (154 JKB)

Students may be graduated with a major in one of the following departments in the College of Business:

Accounting
Business Education
Business Management
Economics
Statistics

OBJECTIVES OF THE COLLEGE OF BUSINESS

The primary purpose of the College of Business is to assist the student to achieve success in business, government service, professional education, or graduate study. Programs within the college are designed to provide learning experiences to help the student acquire knowledge, insight, maturity, competence, and a sense of business ethics.

The student is expected to develop competence in the following abilities:

a. To use quantitative tools and scientific methods in analyzing the problems and policies of the economy and the individual business firm.
b. To write and speak effectively.
c. To work with people to achieve individual and organizational objectives.
d. To use sound analysis and perceptive interpretation of economic and social forces.
e. To think logically and abstractly.
f. To make sound decisions.

RECOMMENDED HIGH SCHOOL PREPARATION

Because of the increasing use of mathematics and communications in business, a student expecting to enroll in the College of Business will find it necessary, in order to complete the prescribed curricula without loss of time, to have successfully completed the following high school courses or their equivalent:

3 units of English
3 units of mathematics, consisting of 2 units of algebra and 1 of geometry.

Students who have not completed the mathematics suggested above in high school will be required to remedy the deficiency before registering for Math. 108.

DIVISION OF BUSINESS FUNDAMENTALS AND COLLEGE CORE REQUIREMENTS

All students registering in the College of Business will register in the Division of Business Fundamentals as their major (Department Code 213) until they have completed the College of Business lower-division core course requirements and have completed at least 62 semester hours of university credit. Upon completion of the requirements, students who have earned a 2.25 grade-point average in the core courses listed below will be permitted to transfer to the department in which they intend to specialize and graduate:

Accounting 201, 202	6 hours
Economics 111, 112	6 hours
Mathematics 108 (or equivalent)	4 hours
Statistics 221 (or equivalent)	3 hours

Students planning to transfer into a department which requires Accounting 232 should also take this course while in the Division of Business Fundamentals.

Economics 111 and 112, listed above, apply to the University's general education requirements in social sciences. Mathematics 108, Statistics 221, and Accounting 232 may be used toward the specified mathematics, statistics, logic, and science requirements.

Students in the Division of Business Fundamentals should complete or be currently registered for lower-division core requirements before registering for upper-division business courses.

In order that all students (except business teaching majors) who plan to graduate with a major in any of the departments of the College of Business may benefit from a common background of the basic information and tools to help in their advanced work, they are also required to take the additional core courses listed below. Normally these are completed during the junior year.

Accounting 342	3 hours
Business Management 347, 348, and 321 or 340	9 hours
Economics 301 or 302	3 hours

Business education majors may take the following substitutions:
Business Education 305 for Business Management 321 or 340.
Economics 274 for Economics 301 or 302.
Economics 453 for Business Management 348.

Business education majors in the Business Teacher Program may also take Business Management 247 instead of Business Management 347.

Economics majors may substitute Economics 453 for Business Management 348.

It is recommended that all College of Business students take Business Education 320 to aid in developing competence in written and oral communications as stated in the objectives of the College of Business.

MINOR IN GENERAL BUSINESS

A general business minor may be obtained by students outside the College of Business by completing the following courses:

Accounting 201, 202	6 hours
Business Management 321, and either 247 or 256	6 hours
Economics 111, 112	6 hours

GRADUATE PROGRAMS

Graduate programs are also offered through the Graduate School by departments of the College of Business. Degrees offered are

The Master of Business Administration (MBA)
The Master of Accountancy (M.Acc.)
The Master of Science in Economics (MS)
The Master of Science in Business Education (MS)

Students who contemplate entering one of these graduate programs should consult with the department chairman prior to registering for upper-division classes in the undergraduate program.

The program leading to the Master of Business Administration (MBA) is designed primarily for qualified students whose undergraduate majors were in the arts, the sciences, and other nonbusiness areas. Those contemplating an MBA degree are advised to take a broad program in their undergraduate work and should contact the director of the MBA program.

College of Education

Antone K. Romney, Dean (118 McKay)

The College of Education has as its principal function the educating of teachers, counselors, school psychologists, school librarians, principals, supervisors, superintendents, and other professional workers in education.

The following departments are in the College of Education:

Teacher Education
Graduate Department of Education

Office of Educational Research and Development. In addition to the above departments the College of Education has established an Office of Educational Research and Development. This office conducts research projects approved by the college, assists in conducting other educational research projects, and stimulates research on educational problems on the part of faculty members, students, and others. It assists in the planning of research projects being carried out at the University, in school districts of the area, and by other educational groups or agencies. It also assists by recommending capable consultants from the departments to advise and supervise such projects. The program provides some opportunity for graduate students to participate in ongoing research projects and assist in planning their own research programs.

Elementary School Teaching. A student interested in elementary school teaching should register in the College of Education immediately. The program is largely prescribed from the beginning of the freshman year. Late entrance into the college may delay graduation and certification beyond the usual four years. For course listings and prerequisites see the Teacher Education Section of this catalog.

Secondary School Teaching. A student who plans to prepare for a career in high school teaching and related activities may do so either by registering within the College of Education or by registering in one of the other colleges of the University. In the latter case he must complete the required professional education courses and the necessary subject-matter, and other courses for the teaching certificate under the joint direction of an adviser in the College of Education and an adviser in his major college. For course listings and prerequisites in this area, see the Teacher Education Section of this catalog.

Special Education. A student interested in preparing to teach classes for students with intellectual handicaps, motor impairments, visual disabilities, or hearing handicaps should plan his program with the coordinator of special education during his freshman year. Individuals who certify in these specialized areas must also obtain regular elementary or secondary teaching certificates. Early planning will enable the student to complete requirements for provisional certification in special education along with his regular four-year program. Programs for professional certification in the above areas of specialization and in remedial teaching in classes for the academically handicapped are provided in the Graduate Department of Education. Students interested in speech and hearing correction should contact the Speech and Dramatic Arts Department.

Indian Education. Students interested in teaching Indian children are encouraged to enter either the elementary or secondary teacher certification programs. While students are completing these programs, they may take certain Indian education courses to enhance teaching competency. As each student applies for student teaching, he indicates his desire for a teaching assignment in a public school with Indian students. To provide even greater background the Indian Studies minor is available to those seeking the teaching certificate. For further information, contact the coordinator of Indian education in the College of Education or the Institute of Lamanite (American Indian) Studies.

Junior College Teaching. The College of Education provides appropriate training for graduate students who are interested in junior college teaching. Students who are registered with the Graduate School in a program leading to a master's degree in an academic subject matter area may complete the requirements for a junior college teaching credential by enrolling in professional education courses offered in the Graduate Department of Education. Further information is available through the Graduate Department of Education, Room 205 McKay.

Administrative-Supervisory Certificate. Students seeking certification as administrators and/or supervisors in Utah must give evidence of at least three years of successful teaching experience, of having a valid teaching certificate, and of having taken eighteen semester hours of specified graduate course work. In addition, secondary school administrators and supervisors must give evidence of having completed a master's degree or its equivalent in course work which may include the twelve semester hours. For course listings in this area, see the Graduate Department of Education.

Curriculum and Instruction. Qualified students seeking specialization in the areas of curriculum and instruction may pursue work leading to the Master of Arts, the Master of Education, or the Doctor of Education degrees. The exact requirements of these programs are found in the Graduate School Catalog. Specific graduate courses are also listed under the Graduate Department of Education in this catalog.

Counseling and Guidance. Certification as a school counselor in Utah requires approximately one year of graduate work in counseling and guidance plus two years of successful teaching experience. For course listings in this area, see the Graduate Department of Education.

School Psychology. The Graduate Department of Education and the Psychology Department jointly offer a program leading to state certification as a school psychologist. This program requires a master's degree and ordinarily takes two years beyond the bachelor's degree to complete. To be certified in Utah the person must have a valid teaching certificate. It is also highly recommended that he have at least a year of teaching experience at either the elementary or secondary level.

Secondary School Principalship. Certification as a secondary school principal in Utah requires a minimum of three years of successful teaching experience, five years of study in an accredited college or university terminating in the master's degree (or fifty-five quarter hours—37 semester hours—of credit in graduate study—including a minimum of 27 quarter hours or 18 semester hours—of work selected from three or more areas related to school administration). The courses listed in the Graduate Department leading to the master's degree in educational administration enable the candidate to obtain the Administrative-Supervisory Certificate for Secondary Schools.

Teaching as a Second Career. A student preparing for a career in a field other than teaching may provide himself with a second possibility for employment by meeting the requirements for certification as a teacher while he is completing the other preparation. By planning early in his career, he may do this within the usual scope of the baccalaureate program and with little or no interference with the major program. It should be noted that at present this is particularly feasible for high school teaching, where depth of preparation in two or three subject-matter fields is desired, but it also may be possible under special arrangements in the elementary school program.

Early Decisions Desirable. In either case the student is urged to make the decision as early as possible in his college career to avoid conflicts in the scheduling of courses and to take fullest advantage of the maturing effect produced by spacing the study of teaching over a period of time.

How to Proceed. Those who decide to register in the College of Education should transfer to that college at once. All others will register in the colleges in which they are majoring. **Every candidate for a teacher's certificate, however, regardless of the college in which he is registered, must have his certification program approved in the Teacher Certification Office, Room 111 McKay Building, before he enters Teacher Education 301, the first course in the professional education sequence.**

Cycle Organization. To insure adequate facilities and opportunity to take classes, it has been necessary to organize the programs of the College of Education into cycles. Students in elementary education enter the cycles as beginning freshmen according to alphabetical listing of surnames. Students in secondary education are placed in the appropriate cycle according to subject-matter department. Inquiries concerning the proper cycle may be made in Room 111 McKay.

Because it is necessary to keep the cycles balanced, students will not be admitted to the first course without proper approval of their programs.

Students not meeting the academic and other standards of the University may be asked to withdraw from the teacher certification program.

All students in the teacher certification program will be required to meet minimum standards in speech and hearing. Speech and hearing tests may be given as part of the course requirements in the first course in the certification cycle.

Each student who undertakes preparation for teaching will be provided with a brochure describing the requirements and procedures. He will be expected to keep a record of his program and his progress.

How to Become Certified. A student who completes the certification requirements set forth by the College of Education, regardless of the college in which he is registered, is eligible for a certificate issued by the Utah State Board of Education. Certification is approved by that board after application for certification has been made personally by the student through the dean of the College of Education, who in turn recommends the student to the state board.

Students will be held for certification requirements under the catalog in effect during the year in which they were admitted to the education program.

A student may prepare himself to be certified as any of the following:

Teacher in kindergarten
Teacher in elementary schools
Teacher of special classes for handicapped children
Teacher in secondary schools
Teacher of industrial arts in secondary schools
Teacher of vocational homemaking in secondary schools
Teacher of unit shops in industrial arts
Librarian in secondary schools
Teacher in junior college
Counselor
Administrator-supervisor in elementary schools
Administrator-supervisor in secondary schools
Superintendent

Certification in Other States. Students planning to teach in states other than Utah should check with the Teacher Certification Office, 111 McKay, for the special requirements of those states.

Basic Professional Certificate. Certification of teachers is a function of the Utah State Board of Education. The Board of Education publishes requirements for certification in booklet form and in supplements. The present policy of the board is one of stating minimum requirements in general terms. This is done to encourage the institutions that prepare teachers to engage in continuous study of the requirements, going beyond the minima in whatever ways seem desirable. While the board is always able to certify a candidate without recommendation from a university, it chooses to require the recommendation of the dean of the College of Education in each institution. This requirement is of assistance not only to the state board, but also to the institution because of the assurance that its efforts to improve the program of preparation will not be made ineffective by the ready availability of ways of going around the minimum requirements.

Alterations in the requirements may be made from time to time. They will not be made retroactive in the case of any student, but may be made to apply to uncompleted portions of his program where this can be done without difficulty.

Requirements for Dual Certification. An individual who has met the requirements for a general elementary school certificate may obtain a general secondary school certificate by meeting certain additional requirements. The state's requirements for subject-matter major, minor, or composite teaching major must be completed. In addition, the individual must complete certain courses in methods of teaching and in student teaching at the secondary school level. An individual who has met the requirements for a general secondary school certificate may obtain a general elementary school certificate by completing certain courses in methods of teaching and in student teaching at the elementary school level. Specific instructions for these programs are available in the Teacher Certification Office, Room 111 McKay.

Professional Certification Program for Teachers in Service. Advancement in teaching, both professionally and economically, requires study in some depth beyond the bachelor's degree. State departments of education increasingly are raising certification standards to the level of a five-year preparation program. To meet this need Brigham Young University offers a carefully planned fifth-year program. It consists of the equivalent of a master's major or minor in professional education, with a major or minor in the teacher's subject-matter field. Details of the program may be had through the Teacher Certification Office, Room 111 McKay. The program outlined by the University will meet the requirements of the five-year professional certificate of most states.

Selection of Candidates. Candidates for certification as teachers should expect to be carefully selected, even though their interest in certification is secondary to another career at the time. Only individuals of high caliber who have acquired a substantial general education, whose mastery of their major and minor fields is unquestioned, and whose personal character reflects the best ideals of our culture will finally be recommended for certification.

The selection of those who will be finally recommended for certification is a continuous process. It begins when the student first announces his intention of seeking certification. It continues through all stages of his education. Among other things, it is necessary to maintain a Brigham Young University cumulative grade-point average of 2.25 or better to remain in the program ("C"=2.00).

Students Transferring from Other Colleges. To transfer from another university to the College of Education at Brigham Young University the student must have a cumulative grade-point average of 2.25 or better.

Students transferring to the College of Education from another college within Brigham Young University must have a Brigham Young University cumulative grade-point average of 2.25 or better.

To continue to take sequence courses in professional education or to remain in the College of Education the student must maintain both a Brigham Young University cumulative grade-point average and a semester grade-point average of 2.25 or higher.

College of Family Living

Blaine R. Porter, Dean (1206 SFLC)

BACCALAUREATE DEGREE

The four-year academic program in family living provides first and foremost a broad liberal education, and second, preparation for a profession. All the colleges of the University contribute to the curriculum, providing background in the arts, humanities, and sciences to be applied and integrated into areas of specialization which may continue through the baccalaureate to an advanced degree. The college contributes to the total University community by offering courses designed to develop insight into and understanding about various aspects of family life.

Much of the work that was at one time confined to the home has moved out into the community and has resulted in highly specialized, professional services to all homes and families. Areas of specialization include child development (as a straight major or combined with elementary education), clothing and textiles, dietetics, family relationships, food and nutrition, interior design, home economics education, and housing and home management. These areas of specialization are offered in the five departments of the college: Child Development and Family Relationships, Clothing and Textiles, Food and Nutrition, Home Economics Education, and Housing and Home Management. Successful completion of the work prescribed in any one department is rewarded with the baccalaureate, which attests to the competency of an individual to assume such professional responsibilities in the community as teacher, dietitian (after internship), extension agent, or fashion designer.

REQUIREMENTS

All major curricula include work in the physical, social, and biological sciences and the humanities as well as some work in each of the college departments.

Students who graduate from the college are expected to have specialized training in one department and general knowledge in each of the others. They should develop some competency in planning for optimum health of the family through nutrition; in managing the home to make the best use of resources; in the purchasing and use of food, clothing, and shelter for maximum family satisfaction; in developing a creative home environment through an understanding of human development and family relationships. Each student is, therefore, required to have at least one course in each department outside the major.

Men who major in the college find promising professional opportunities in the following: clothing production and merchandising, textile testing, hospital dietetics, institutional food service, household finance and equipment agencies, child development centers, family welfare agencies, and teaching.

Women majors have these same opportunities plus those traditionally assigned to them, for example: fashion merchandising, home extension, household equipment demonstration, nursery education, and home economics education.

Lines of demarcation between what is women's work and men's work are rapidly disappearing, and it is possible today for male or female to pursue many major interests and readily find employment opportunities on completion of training.

AFFILIATION WITH THE MERRILL-PALMER INSTITUTE

Through a cooperative arrangement with the Merrill-Palmer Institute of Human Development and Family Life in Detroit, Michigan, the college sends several students to the institute each year. Seniors and second-semester juniors from any department are eligible. Criteria for selection are scholarship, professional interest, and worthy representation of the Church and the University. Credits earned at the institute are accepted and credited toward graduation at Brigham Young University.

ASSOCIATE DEGREE

The associate-degree program is designed for students who wish to make a profession of homemaking and at the same time develop abilities that may be put to use occupationally. The requirements in the 64-hour curriculum are specified as follows:

General Requirements .... 20 hours

English—6 hours, health—2 hours, physical education—1 hour, History 170—3 hours, religion—8 hours.

Group Requirements .... 12 hours

Biological science—3 hours, physical science—3 hours, social science—3 hours, humanities and fine arts—3 hours.

Departmental Requirements .... 32 hours

Courses are to be selected from clothing and textiles, food and nutrition, home economics education, housing and home management, and child development. A student may choose to take most of the work in one department or combine studies from all departments depending on family and occupational goals.

Occupational options include: child study—leading to nursery school work; clothing and textiles study—leading to work in the merchandising and clothing industries; food and nutrition study—leading to work in food industries; housing and home management study—leading to work in housing and homemaking services; interdepartmental study—leading to such appointments as airline stewardess.

The two-year curriculum can be converted at any time to a four-year program leading to the baccalaureate. Assistance in program planning is available through the dean's office.

GRADUATE STUDY

Students who have completed all requirements for the bachelor's degree and who wish to continue their studies are registered in the Graduate School and are under the jurisdiction of the dean of that school. The college, through approval of the Graduate Council, provides curricula leading to the master's degree in child development, family relationships, and food and nutrition. The doctor's degree is offered in child development, family relationships, and marriage counseling. In order for a student to participate in these programs he/she must apply to the Graduate School and be admitted as a degree-seeking student. Because of attractive opportunities and a serious need for the contributions of highly trained professional persons, outstanding students are encouraged to pursue graduate studies.

PROFESSIONAL AND HONORARY ORGANIZATIONS

Sigma Delta Omicron is a professional club affiliated with the Utah and American Home Economics Associations. Membership is extended to all students of the college. Special-interest sections of the club are sponsored by departments.

Omicron Nu is a national honorary society whose objectives are to recognize superior scholarship, to aid in the development of qualities essential to leadership, and to encourage research in the professional fields related to home and family living. Juniors and seniors of the college with high academic standing, ability in creative thinking, and potential leadership ability are eligible for election to membership. Graduate students meeting these requirements are also eligible.

SCHOLARSHIPS AND AWARDS

The college recognizes outstanding accomplishments of students at the college honors and awards convocation. Following is a description of scholarships and awards presented:

Class Awards

Zina Young Williams Card Award (established by Zina Y. C. Brown). A featherweight sewing machine is awarded to a freshman who has completed 31 credit hours with a grade-point average of 3.5 or better and who exemplifies the great qualities of the first teacher in the Ladies Work Department of Brigham Young Academy.

Sigma Delta Omicron Scholarship (established by Dr. Marion C. Pfund). A $150 scholarship is awarded to a sophomore who has completed 62 credit hours with a grade-point average of 2.65 or better with no grade lower than "C." Work must include six hours each of English and chemistry; three hours each of microbiology, psychology, and food and nutrition; and two hours each of health and physical education. Recipient must have been an active member of Sigma Delta Omicron Home Economics Club for two years.

Elsie Maughan Belliston Library Award. Some professional books and/or periodicals are awarded to a junior having successfully completed 93 credit hours with a grade-point average of 3.0 or better. High ethical standards and dedicated professional interest also are considered.

Elizabeth Cannon Sauls Scholarship (Established by Kiefer B. Sauls). A $100 scholarship is awarded to a deserving junior whose grade-point average, character, and professional potential are rated in the upper ten percent of the class.

Hazel Noble Award. A precious gift for the home is awarded to a graduating senior whose womanly qualities, professional attitude, and scholastic interests are reflected in her daily living.

Gamma Phi Omicron Alumnae Award. An engraved silver tray is given to a senior of high scholastic standing who has demonstrated most adequately the ability to carry a dual role—that of homemaker and student.

Leah D. Widtsoe Sterling Award. A silver bowl is awarded to a senior of sterling character who has made significant progress during her years of study and who has gone the "second mile" to render service to classmates, college and university.

Rose Wallace Bennett Leadership Award (established by the Bennett family in memory of their mother). A piece of luggage is awarded to a senior who has best demonstrated the ability to be an able leader in campus affairs as well as a good student.

Caroline R. Eyring Memorial Scholarship (established by Joseph C. Eyring). A $100 scholarship is awarded to a junior with a 3.5 grade-point average or better. Interest in professional training or graduate work and a high concern for the social welfare of others are attributes considered.

Highland Dairy Scholarship (established by Louis R. Curtis). A $100 scholarship is awarded to a junior having successfully completed 93 credit hours with a grade-point average of 3.25 or better. The recipient must show evidence of professional promise and have characteristics that are desirable in business. The person selected should plan to assist with several Dairy Council projects during the senior year.

Elaine Ranker Monson Scholarship (established by Irene T. Ranker). A $100 scholarship is awarded to a junior who ranks in the upper five percent of her class. Professional attitude, ability to think critically, and interest in graduate work are considered.

Effie Warnick Memorial Scholarship (established by colleagues, students, and family of Effie Warnick). A $100 scholarship is awarded to a high school senior who ranks first in tests given to high school seniors on College Career Day and who enrolls at BYU.

Woolgrowers' Scholarship (established by Delbert Chipman and son, Delbert Ray Chipman). A $100 scholarship is awarded to a junior having successfully completed 93 credit hours with a grade-point average of 3.25 or better. Candidates with professional promise and ability to assist with several woolgrowers' projects during the senior year will receive serious consideration.

Departmental Awards

Child Development and Family Relationships

CDFR Outstanding Senior Awards. These awards are given to the two students who best represent the seniors graduating from the department. The students are judged on the basis of their academic performance, their activity and interest in the objectives of the department, and from personal evaluations of faculty members who have worked with the students.

Frances P. Barlow Award. A pewter pitcher is awarded to an outstanding CDFR senior who will continue to pour the love and understanding of children into the hearts of all with whom she will come in contact.

Betty Porter Memorial Scholarship (established by the family and friends of Betty Porter). A $100 scholarship is awarded annually to a student majoring in child development and family relationships. The recipient is selected on the basis of integrity, scholastic achievement, professional promise, and financial need.

Clothing and Textiles

May Billings Scholarship (established by Verda Griner). A $100 scholarship is awarded to a junior for outstanding accomplishment in clothing.

Maxine T. Grimm Award. A personally hand-woven dress fabric is presented to an outstanding senior in the Department of Clothing and Textiles.

Food and Nutrition

Susa Young Gates Memorial Scholarship (established by Leah D. Widtsoe). The sum of $100 is awarded to a junior who is particularly interested in pursuing nutrition studies related to the Word of Wisdom.

Home Economics Education

Virginia B. Poulson Senior Achievement Award. An award presented to a senior student who best represents the seniors graduating from the Department of Home Economics Education. The student is judged on the basis of academic performance, activity and interest in the objectives of the department, professional promise, and from personal evaluations of faculty members who have worked with the student.

Housing and Home Management

Housing and Home Management Achievement Award. An award given to a senior student judged on the basis of academic performance, activity and interest in the objectives of the department, and from personal evaluations of faculty members who have worked with the student.

Graduate Awards

Belle Wilson Hales Memorial Scholarship (established by Wayne B. Hales). A $500 scholarship is awarded to a senior or graduate student in the College of Family Living or to a graduate student from some other institution of higher learning who is transferring to the college at BYU. The recipient is selected on the basis of scholarship, character, leadership, and community service (including school, Church, and community), and financial need.

Walter Ellis Trunnell Medal (established by Jack B. Trunnell). A gold medal is awarded to a graduate student who has demonstrated outstanding research ability through the development of a thesis, the results of which will benefit the family and the Church.

Moyle-Woodruff Fellowship (established by Virginia F. Cutler). A $500 fellowship is awarded to a graduate student who is engaged in studies related to home and family values and who is a candidate for future leadership positions. The recipient is selected on the basis of high academic achievement, growth in professionalism, personal integrity, and high sense of social and moral responsibility.

College of Fine Arts and Communications

Lorin F. Wheelwright, Dean (A-410 HFAC)
Clawson Cannon, Assistant Dean (B-509 HFAC)

The following departments are in the College of Fine Arts and Communications:

Art
Communications
Music
Speech and Dramatic Arts

The policy of the University has always provided for a liberal patronage of the fine arts. The organization of the College of Fine Arts in 1925 was the result of a desire to offer students greater opportunities for better coordinated academic and professional growth. At the opening of the school year 1963-64 a Department of Communications was added to the college, and the name was changed to the College of Fine Arts and Communications.

With exceptionally well-prepared faculties who have undergone extended study in recognized schools and arts centers, and a new building designed and equipped to integrate all aspects of the fine and communicative arts, the college has become nationally known for the artistic and academic work done under its direction.

All courses offered in this college that lead to the baccalaureate are the cultural equivalent of other college courses offered in the University, differing from them mainly in respect to the emphasis placed on the study of the fine arts.

Majors are selected from the work offered in the departments; minors may be selected from them or from other departments in the University which offer allied work.

DEPARTMENT OF ART

The Department of Art serves two main purposes: (a) the preparation of creative leaders in the various fields of the plastic and graphic arts, and (b) the building of an appreciative audience for these arts.

Major programs are offered which lead to careers in art education, commercial art, interior design, painting, printmaking, sculpture, and ceramics. Four degrees are offered: (a) the Bachelor of Arts, (b) the Bachelor of Fine Arts, (c) the Master of Arts, and (d) the Master of Fine Arts. The Bachelor and Master of Fine Arts place an emphasis on performance.

The Master of Fine Arts degree is a two-year program. It requires a one-man show, a terminal project, and a scholarly report of the graduate's art activities and terminal project.

Master of Arts degrees are offered in the fields of painting and sculpture and in design, which may include ceramics, crafts, interior design, printmaking, and commercial art.

A collection of more than seven thousand original works of art, by both American and European artists, is owned by the University. Frequently changing exhibitions of work by contemporary artists also contribute to general appreciation and to the instructional program. Exhibitions of students' work are held regularly for analysis and criticism, and for furthering professional growth. The Department of Art sponsors special lectures, demonstrations, and trips to galleries as cultural enrichment activities.

DEPARTMENT OF COMMUNICATIONS

The principal objectives of the Department of Communications are to prepare qualified students for professional careers in the major areas of mass communication and to help all students in the University gain greater understanding of the mass media as they affect them in daily life.

The professional education program in communications offers specializations in the following areas leading to the Bachelor of Arts degree: advertising and public relations; journalism (newspaper, magazine, and radio-television journalism); broadcasting; and teaching of journalism. Graduate studies leading to the Master of Arts degree provide advanced courses and seminars in specialized areas of the discipline.

Course offerings are supported by laboratory facilities in the areas of advertising, reporting and editing, photography, and broadcasting. Broadcasting instructional facilities include the studios of KBYU-TV and KBYU-FM. Students in advertising and journalism have opportunity to combine their instructional program with staff assignments on the "Daily Universe" campus newspaper.

As a link between the student's academic preparation and his professional career, professional internships are arranged for qualified seniors and graduates. In these internships supervised experience is gained on the staffs of selected newspapers, magazines, radio and television stations, and advertising agencies and offices.

The department sponsors a series of lectures on communications throughout the year to bring students in contact with leading professionals and scholars in the field of communications. Professional activities are also stimulated by student organizations in advertising, journalism, and broadcasting.

DEPARTMENT OF MUSIC

The main objectives of the Department of Music are to help each student attain through music the skills and proficiencies of an artist while he is gaining a broad general education; to develop talent to the highest degree possible; to train music teachers for a noble profession; and, through association with distinguished artists and teachers, to help all BYU students acquire discriminating taste and sound critical judgment.

The Bachelor of Arts degree is available with majors in music theory and applied music. The Bachelor of Music degree is available with a major in music education. The master's and doctor's degrees may be taken in musicology, music theory, music education, and applied music.

Students who desire to become composers, arrangers, or music copyists, or who wish to teach theory of music should pursue a major in music theory.

Every music major studies a certain amount of applied music in order to develop proficiency on his major instrument or in voice. Students who wish to become skilled performers in order to qualify themselves to assume positions in the concert or professional world should major in applied music.

Prospective school teachers have the opportunity to major in vocal or instrumental music. Each program is designed to emphasize the essential aspects of preparation for teaching in public schools. The master's degree program in elementary or secondary school music is designed to prepare teachers, supervisors, and music consultants who can help classroom instructors teach music effectively.

A cultural atmosphere seldom equaled is provided through concerts and recitals, including visiting groups and artists. The Department of Music sponsors more than 250 concerts and recitals each year, not including the lyceum service provided by student body activities and by the lyceum committee.

There is a musical organization for every student at BYU who is interested in singing or in playing a musical instrument.

DEPARTMENT OF SPEECH AND DRAMATIC ARTS

The public-address area of the Department of Speech and Dramatic Arts provides practical training and experience to the general University student in public speaking, discussion, and parliamentary debate. This is particularly applicable to the prelaw, business, and teaching professions. In addition to course work, several competitive speaking contests are sponsored to encourage speaking activities. These include the Donald C. Sloan Extemporaneous Speaking Contest on current events, which offers tuition prizes; the Heber J. Grant Oratorical Contest on a faith-promoting subject; and the Delta Phi Extemporaneous Speaking Contest on religious topics. The department also sponsors the Speakers Forum at the close of each semester.

The BYU Forensic Association offers an opportunity for all students to participate in competitive speech activities on both the intramural and intercollegiate levels. Interested students in all fields of study participate in more than thirty debate trips during the academic year in many parts of the nation. During the past ten years BYU has qualified for the National Debate Tournament at West Point five times. Only thirty-six schools from among the nation's more than 2,000 colleges and universities are selected to participate in this tournament.

The area of dramatic arts seeks to develop the student through a broad, intensive program. Fifteen major productions and sixty-five one-act and experimental plays constitute the annual offerings. Recently the department was highly honored in being chosen a second time by the American Educational Theatre Association and the USO to play at Far Eastern military bases, including

Japan, Okinawa, Korea, the Philippines, Guam, and Hawaii. It toured northern Europe Spring Semester of 1968. The department operates a major theatre, an arena theatre, an experimental theatre, and a television drama series, with the latest and most workable equipment to be found in any of the theatres of the United States.

The area of communicative disorders (also known as speech correction or speech therapy) prepares students with speech and hearing rehabilitation training positions with public schools, community speech and hearing centers, for university and college clinics, hospitals, and private practice. The student deals with the diagnosis, elimination, and alleviation of speech defects or with the development and improvement of speech intelligibility. He also studies the function of the ear, impairments of hearing, and the education or reeducation of the person with a hearing loss. The state certificate in speech and hearing therapy can be obtained through a four-year program. The national American Speech and Hearing Association certificate in speech pathology or audiology may be obtained under a master's degree.

Speech education is a combination program which leads to a teaching certificate in the state of Utah. The objective of this program is to provide students with the skills, methods, research, and actual teaching experience needed to effectively teach speech and drama units on the secondary level.

FINE ARTS COLLECTION

The fine arts collection of paintings, sculpture, drawings, etchings, engravings, monotypes, lithographs, and reproductions of works of art is as follows:

A. Memorial Collections.

1. The Lee Greene Richards Collection of 36 paintings.
2. The James T. Harwood Collection of 90 paintings, etchings, and drawings.
3. The John Hafen Collection of 24 paintings.
4. The Elbert H. Eastmond Collection of 64 paintings.
5. The John Willard Clawson Collection of 85 paintings and sketches.
6. The Maynard Dixon Collection of 85 paintings and sketches.
7. The Edwin Evans Collection of 61 paintings.
8. The Rose Hartwell Collection of 71 paintings.
9. The Rose Hartwell Crafts Collection.
10. The Joseph Imhof Collection of lithographs.
11. The Merlin A. Steed Collection of 70 paintings.
12. The Mahonri Young Collection of 304 sculpture pieces (bronze and plaster), 326 paintings, 5,308 watercolors and drawings, 1,112 prints.

    Acquired with the Mahonri Young Collection are oils, pastels, drawings, watercolors, etchings, and other prints totaling 2,116 pieces. Among the artists represented above are such names as Albert Bierdstadt, Clifford Beal, Camille Corot, Arthur B. Davies, William Glackens, Child Hassam, Winslow Homer, Edward Manet, Jean F. Millet, Joseph Pennell, John Twachtman, Dorothy Weir, J. Alden Weir, James Whistler, Harry Wickey, and others.

13. LeRoy Pharis Collection of 49 pieces of Chinese ivory carvings, paintings, and screens.

B. Other Utah artists represented: George M. Ottinger, Daniel Weggeland, Loris Pratt, John B. Fairbanks, Samuel Jepperson, Minerva Teichert, Alma Wright, Waldo Midgley, Calvin Fletcher, Cornelius Salisbury, Joseph Everett, Henri Moser, Torlief Knaphus, Avard Fairbanks, Henry Rasmussen, B. F. Larsen, Edgar M. Jensen, Glen H. Turner, J. Roman Andrus, Warren B. Wilson, Richard L. Gunn, and Lavieve H. Earl.

C. Other well-known national artists represented: Lee Randolph, George Elmer Browne, Fern Gary, Gordon Grant, Marie A. Hull, Haley Lever, Clarence Millet, Luis F. Mora, Chauncey F. Ryder, Matteo Sandona, W. Lester Stevens, Anthony Thieme, John Law Walker, J. Alden Weir, John Whorf, Eliot Daingerfield, George Pierce Ennis, John E. Costogan, George Henry Taggert, William Morris, Jon Corbino, J. Connaway, Robert Brackman, Peter Hurd, Marguerite Pearson, Henry W. Ranger, John Twachtman, John F. Carlson, Gene Kloss, Earle Loran, Emil Bistran, Umberto Romano, Lez Haas, Eric Bransby, Ralph Blakelock, Frederick E. Church, Thomas Cole, Thomas Doughty, Sanford Gifford, Thomas Hill, Dominique Ingres, George Inness, Eastman Johnson, John Kensett, Ernest Lawson, John Marin, Homer Martine, Pietro Rotari, Joshua Shaw, Everett Shinn, and Benjamin West.

D. Original etchings, lithographs and other prints, including the work of Ernest Fiene, Rockwell Kent, Joe Jones, Reginald Marsh, Waldo Pierce, Herbert Dunton, Boardman Robinson, Otis Dozier, Lawrence Barrett, John Taylor Arms, Kaethe Kollowitz, Gene Kloss, Conrad Buff, Reynold W. Weidenaar, Hans Erni, Fernand Leger, Glen Alps, Harry Sternberg, and Wendell Black. There are also 24 Rembrandt replicas.

E. The Lorrain Allen Oriental Art Collection, including Japanese and Chinese bronzes and ceramics from the Ming period. Also in this collection are paintings and prints.

F. The Dr. O. K. Cosla Collection. Dr. and Mrs. Cosla of New York City have to date given BYU three paintings, one a large and important work exemplifying the Baroque style from the Studio of Rubens.

G. The Karel Waterman Collection. Karel Waterman, a Dutch collector and connoisseur of European art has given one large painting attributed to a disciple of Lucas Cranach.

H. The Dr. and Mrs. Burtis France Robbins Collection was given to Brigham Young University in 1962 and consists of a total of 25 paintings and prints.

I. Reproductions of famous works of art, including various types of modern art.

J. Large collections of slides, including natural color slides and the George K. Lewis Memorial Collection of Kodachrome slides.

LOTTA VAN BUREN COLLECTION

The Lotta Van Buren collection of ancient instruments and music contains rare old instruments, modern reproductions of ancient instruments, literature on ancient instruments, and a library of old instrument scores. In this collection are also some ancient costumes and pictures of interest.

Among the instruments, some of which were made in the Fifteenth Century, are the following: a viola da gamba (once owned by George Frederick Handel), five viols, a cittern, an Arabian lute, a two manual harpsichord, a virginals, an octavina, two clavichords, a hurdy-gurdy, and other such instruments.

The Van Buren collection is one of the few collections in the United States in which all instruments are in playable condition. Several concerts in which some of these instruments are used are given each year.

This unusual collection, housed in a specially equiped room (E-400 Harris Fine Arts Center), is open for inspection by the public.

SCHOLARSHIPS AND AWARDS

Scholarships, awards, and grants-in-aid are available to qualified students in all departments of the College of Fine Arts and Communications. A number of these are reserved for high school graduates and transfer students who are qualified because of scholarship, outstanding skills, or leadership.

All scholarships and awards are under the jursidiction of the University Scholarship Committee. Applications for such awards may be obtained from the chairman of this committee. Specific information regarding individual qualifications may be had from the chairmen of the individual departments.

For information regarding scholarships, fellowships, and grants-in-aid for graduate study, see the Brigham Young Graduate School Catalog.

General College

Lester B. Whetten, Dean (A-203 JKB)

General College has been added to the academic structure of Brigham Young University to meet more adequately the objectives and changing educational demands of the University. The college is designed to help students develop responsible citizenship in the Church and in the state, to acquaint them with their cultural heritage, and to lay the foundations for useful and productive lives in a democratic society.

To achieve the objectives of General College and to provide for other educational needs of students the college is divided into the following departments:

American Indian Education
General College General Curriculum
Guided Studies
Provisional Registration (Undetermined Major)

AMERICAN INDIAN EDUCATION DEPARTMENT

Royce P. Flandro, Chairman

The American Indian Department has two basic functions: (1) Prepare college students, who are Indians of North, Central, and South America, for successful employment and living. (2) Prepare students to work successfully among Indian people.

All American Indian students, upon admission to the University, first register in General College and later are transferred to one of the programs listed below according to the student's interest, achievements and goals.

1. Technical and semiprofessional (two-year collegiate terminal)
2. Undergraduate (four-year baccalaureate)
3. Graduate

A special program is designed to assist students in adjusting to college work and in preparing for majors in the three programs listed above. The special program has also proven to be useful to students who wish to seek employment after one year of college. Most of the freshman courses which are taught in this program are required and help to fill freshman requirements for any field of study. Special teaching methods, laboratory devices, and laboratory assistants are available for meeting the unique needs of each student who desires to avail himself of these services. Tutoring services are provided for all students who find that they need help beyond regular classroom instruction due to a deficiency in their academic backgrounds. In some instances small groups may utilize the services of a tutor. Testing and counseling services are available to assist students in assessing their abilities and interests. Occupational information, employment assistance, and student follow-up are provided. Student leadership opportunities are also available through the "Tribe of Many Feathers" and the 58th (Indian) Ward. Integration into total University life is encouraged. Financial assistance is also coordinated through this department. It stands ready to assist any department on campus in its service to American Indian students. All American Indian students are urged to maintain contact with this department before admission, during total schooling, and after leaving BYU.

Indian Studies Minor

There is a need for professionally trained and qualified persons from many disciplines to work with and among Indian peoples. All students who plan to prepare themselves to work with Indian people should select a professional or occupational major and also pursue a minor in Indian Studies.

The Indian Studies minor is open to any student of the University and is designed for students who desire an understanding of the Indian life and problems. This preparation should thereby enhance their professional effectiveness among native Americans.

Students who desire additional information on the Indian Studies minor may contact the Institute of Lamanite (American Indian) Studies on the campus. Students selecting the Indian Studies minor, who are planning to teach Indian students, are urged to contact the coordinator of Indian Education in the College of Education early in their program.

At the present time, there is no Indian Studies major. The Indian Studies minor is considered to be a supplement to the departmental majors.

	Sequence Courses:	**Credit**
1.	Anthropology 105, Introduction to Social Anthropology	3
2.	History 364, The Indian in American History or Anthropology 317, Native Peoples of North America	2
3.	Anthropology 320, The North American Indian Today	2
4.	Religion 232, Missionary Approach to the Gospel (Indian Section)	2
*5.	Teacher Education 377, Secondary Teaching Curriculum and Methods (Special Indian Education section) (3 credits) or Sociology 561, Contemporary Sociological Research (2 credits)	3 or 2
6.	Electives (See Indian Studies minor adviser)	3 or 4
	Total hours required for Indian Studies minor	15

*Students elect one of these three courses in practical field application depending on their major field.

GENERAL CURRICULUM

Willis M. Banks, Chairman

A two-year course leading to an associate degree is offered in General College. The program is practical in nature. Survey courses in various sciences are offered; also, practical training in home management and other fields which will help to prepare the student for future service are prescribed. In order to qualify for this degree the student must complete 32 semester hours in general education subjects, 21 hours in his chosen area of concentration, and 11 hours in elective subjects, making a total of 64 semester hours.

DEPARTMENT OF GUIDED STUDIES

Wayne R. Herlin, Chairman

Students admitted to the University on academic warning are assigned to the Department of Guided Studies, which helps these students develop abilities and skills that will allow them to compete more effectively with other students at Brigham Young University. Special assistance is available in such areas as reading, writing, mathematics, spelling, and effective study.

For further information regarding this program see the Guided Studies section of this catalog.

DEPARTMENT OF PROVISIONAL REGISTRATION

(Undetermined Major)

Wm. Dale Goodson, Coordinator

Each year many students come to the University undecided as to their major field of study. These students register in the Department of Provisional Registration. In this department they are assigned an adviser who assists them with their academic programs and in choosing a college major.

An added help to these students as they attempt to choose their college major is a college orientation class offered by this department. This orientation class meets once a week for eight weeks during which time students have the opportunity to learn of the major and minor offerings of all the colleges at BYU. Occupations directly related to these college offerings are also covered.

Students who have chosen the college they desire to enter but are still undecided as to their major within that college can find suggested programs in the course section of the catalog under Provisional Registration. Students should change from General College to their new college by the end of the first year, if possible, so they can receive more specific guidance in program planning from their major adviser. This adviser in the college of their choice may guide them in meeting the necessary requirements for graduation in that college.

College of Humanities

Bruce B. Clark, Dean (A-129 JKB)

The following departments and special programs are available in the College of Humanities:

English: Dale H. West, Chairman (A-246 JKB)
Classical and Asian Languages: J. Reuben Clark III, Chairman (331 McKay)
French and Italian: Thomas H. Brown, Chairman (355 McKay)
Germanic and Slavic Languages: R. Max Rogers, Chairman (321 McKay)
Spanish and Portuguese: M. Carl Gibson, Chairman (301 McKay)
Humanities: Ralph A. Britsch, Coordinator (A-113B JKB)
Latin-American Studies: Wesley W. Craig, Coordinator (1216B SFLC)
Linguistics: Robert W. Blair, Coordinator (239 McKay)

The College of Humanities was created June 1, 1965, through a division of the College of Humanities and Social Sciences. However, the basic subject areas of literature and language taught in the college have been emphasized in the University since its beginning.

Emphasis in the college is on the study of languages, both English and foreign, and on the cultures and achievements in art and thought of the people who use these languages. In other words, the college is heavily involved in what is traditionally called **liberal** education, both for those students who major or minor in the college and for those who are served by it in the general education program. In their ultimate goals the humanities seek to discover, preserve, and disseminate the best of man's thoughts and creations.

There are three large purposes for which the instructional program of the College of Humanities is designed. First is intensive training in English composition and in basic comprehension of foreign languages for all students of the University. Second is the provision of a broad, liberal education through literature and other humanities courses to assist all University students to receive in the fullest measure the values to be found in today's complex civilization and to contribute to the enlargement of those values. Third is the preparation of professional men and women, highly skilled, deeply rooted in the humanities, to fill positions of responsibility and leadership in the productive affairs of our twentieth-century world, especially as teachers, but also as educated leaders in other areas.

Courses intended to contribute to the first two purposes are offered as a service to all students in the University. Career programs for those who choose to do their major work in this college are offered in each of the five regular departments and the three interdisciplinary areas. Advisers stand ready to consult with students in the selection of programs that will contribute most effectively to a broad education and to professional training. Offices for most of the teachers in the English and humanities programs are located in the new wing (Annex A) of the Jesse Knight Building. Offices for most of the teachers in the foreign languages and linguistics areas are located in the McKay Building.

College of Industrial and Technical Education

Ernest C. Jeppsen, Dean (120 Social Hall)

The College of Industrial and Technical Education, the most recently organized college on the Brigham Young University campus, provides a rich offering of two-year associate degree, four-year baccalaureate degree, and five-year master's degree programs in industrial and technical education. This college is designed to help students become responsible citizens in the nation and leaders in the Church, to acquaint them with their cultural heritage, and to lay the foundations for useful and productive lives in a democratic society.

While this college as such is the newest one on the campus, its beginning dates back to 1875 when a deed of trust executed by President Brigham Young expressly set forth that ". . . each of the boys who shall take a full course, if his physical ability will permit, shall be taught some branch of mechanism that shall be suitable to his task and capacity . . ." and ". . . work for young women —instruction in needlework, embroidery, knitting, sewing, etc., and in domestic duties. . . ."

Programs in this college provide the specialized training necessary to prepare potential teaching and administrative personnel in industrial and technical education as well as employees for business, industry, and government. This college also offers many service courses open to all students on the campus, including courses in Evening Classes, Summer School, Home Study, and in BYU Centers for Continuing Education.

At present, the College of Industrial and Technical Education includes five departments.

DEPARTMENT OF AEROSPACE STUDIES

The Department of Aerospace Studies (AFROTC), listed for administrative purposes in this college, is under the direct supervision of regular officers of the United States Air Force. A description of the requirements and activities of this department is given in the section on Aerospace Studies under List of Courses.

DEPARTMENT OF MILITARY SCIENCE

The Department of Military Science (Army ROTC), listed for administrative purposes in this college, is under the direct supervision of regular officers of the United States Army. A description of the requirements and activities of this department is given in the section on Military Science under List of Courses.

DEPARTMENT OF INDUSTRIAL EDUCATION

The Department of Industrial Education provides baccalaureate programs for the training of industrial arts teachers for junior and senior high schools, and technical education teachers for vocational and technical schools. This department also offers master's degree graduate programs for advanced preparation toward master teacher certification and for preparation of supervisors, coordinators, and administrators in industrial and technical education.

DEPARTMENT OF INDUSTRIAL TECHNOLOGY

The Department of Industrial Technology offers four-year baccalaureate degree programs in building construction technology, electronics technology, design and drafting technology, and manufacturing technology. The latter two programs have been accredited by the Engineers' Council for Professional Development. This department also offers two-year associate degree industrial technician programs.

Genealogical Research Technology. In addition to the above the College of Industrial and Technical Education offers a baccalaureate degree program in genealogical research technology.

TECHNICAL INSTITUTE

The Technical Institute operates throughout the Brigham Young University campus and offers two-year technical and preprofessional associate-degree programs for the training of business technicians in accounting, secretarial service, and data processing; engineering programs for the training of chemical, civil, electrical, electronics, mechanical engineering, and radio-television technicians; industrial programs for the training of drafting, graphic arts, light building construction, tool design, and welding technicians; and miscellaneous technician programs for training in general agriculture, genealogical research, home service, law enforcement, library service, photography and for registered (R.N.) nurses, and piano technicians. The electronics engineering technology program is accredited by the Engineers' Council for Professional Development.

For further information, please refer to the departmental descriptions in this catalog of courses.

College of Nursing

Elaine Murphy, Acting Dean (2240 SFLC)

BACCALAUREATE DEGREE

The basic baccalaureate program in nursing is organized to provide interrelated general and professional education. General education courses are given for the first three semesters. Beginning in the fourth semester, courses in professional nursing are correlated with general education. Concepts of communications, mental health, pharmacology, nutrition, professional ethics, health teaching, interpersonal relationships, and spiritual values are integrated throughout the program. The course of instruction covers clinical experience with theory courses given concurrently.

The purposes of the baccalaureate program are

1. To prepare professional nurses for potential leadership positions in the clinical areas of nursing and to function effectively in giving skillful, comprehensive patient care and contributing to the prevention of illness, rehabilitation, and promotion of health.
2. To develop a strong sense of professional responsibility in the student for maintaining and furthering the quality of nursing as it relates to the individual and community.
3. To develop social sensitivity and broad cultural interests which will enable the student to enjoy a more satisfying and useful personal, family, and community life.

The College of Nursing baccalaureate program is accredited by the National League for Nursing and by the Utah State Board of Nursing. At the completion of the program the student receives a Bachelor of Science degree and is eligible to take the state examination for licensure to practice nursing as a registered nurse and to use the title R.N. The registered nurse is eligible for a position in any health agency, including public health.

Requirements

Admission. All applicants must meet University admission requirements. High school students are advised to take a science-oriented course including at least one unit of algebra (a unit of geometry is desirable), chemistry, biology, and physics.

The student will be assigned to a College of Nursing faculty member who will act as her adviser. An interview with an adviser is required during the first semester.

For admission to the College of Nursing from another institution, or to transfer from another college within the University, the student should contact the dean of the College of Nursing, who will present the case to the Admissions and Standings Committee for recommendations.

Progression. Continuance in the College of Nursing is determined by health, adaptability and attitudes, skills and University grade average.

An average grade of 2.25 must be maintained each semester to remain in the College of Nursing.

All students in the College of Nursing must pass the National League for Nursing (NLN) tests in each area in which they are given with a score above the thirtieth percentile in the **all** column in order to be able to take the State Board Examinations upon the completion of the nursing program. Students who need to repeat any of the examinations in order to improve their score must pay the $1.00 fee for the cost of each exam. Passing the State Board Examinations is required to become licensed to practice as a registered nurse.

Honors Program. A College of Nursing faculty member serves on the University Honors Program Committee. Opportunity and direction are given for exceptional students in the beginning level nursing courses. Honor students elect a minor in allied fields.

Graduation. Candidates for the baccalaureate degree must fulfill the University requirements. It is the student's responsibility to meet these requirements. The program provides for a composite major and minor in nursing.

Fees and Scholarships

Total educational costs are the responsibility of the student. These are found in the catalog section titled "University Fees" listing general University expenses. To these the student should add the cost of uniforms. Laboratory fees in the nursing courses average approximately $20 for the four years. An itemized estimate of the costs to a student in the College of Nursing is available upon request.

The University policy concerning scholarships for leadership and academic standing is applicable to all students in the College of Nursing. After the freshman year some special scholarships and educational assistance are available for nursing students with demonstrated ability and financial need.

College Organizations

Student nurses have the opportunity of being members of the regular college organizations and the Brigham Young University Student Nurses' Association which is affiliated with the Utah and American Student Nurses' Association, a professional organization for students in the College of Nursing. Membership is extended to all students enrolled in nursing. The goals of the organization are to promote professional, social, cultural, and educational activities; to foster cooperation and good fellowship; and to maintain the scholastic and moral standards of the University. Regular meetings are held each month. Representatives of the local association attend the state association meetings and the national meetings. Association members have opportunities to develop leadership abilities, acquire professional attitudes and knowledge, and gain friends through working together.

Educational Facilities

Students share the same facilities and have the same cultural opportunities as all other students on the campus. The newest, most effective teaching aids and equipment are provided in the College of Nursing laboratories and classrooms. The facilities utilized for nursing experience change from year to year depending upon the needs of the students and the learning experiences selected by the faculty. At present, clinical experience is provided in the Latter-day Saints' Hospital in Salt Lake City, the Primary Children's Hospital in Salt Lake City, Utah Valley Hospital of The Church of Jesus Christ of Latter-day Saints in Provo, the State Hospital in Provo, Salt Lake City and County Health Departments, and other facilities available through the State Health Department. The hospitals are approved by the Joint Commission for the Accreditation of Hospitals, an organization sponsored by the American Hospital Association, American College of Surgeons, American Medical Association, and American College of Physicians.

The Latter-day Saints' Hospital in Salt Lake City, with a capacity of 441 adult beds and 105 bassinets, provides clinical fields for the practice of medical, surgical, operating room, and pediatric nursing. The Primary Children's Hospital in Salt Lake City, with a bed capacity of 96, including an isolation unit, provides experience in the care of the child.

The Utah Valley Hospital of The Church of Jesus Christ of Latter-day Saints has a current capacity of 237 beds and 36 bassinets. It provides clinical fields for the practice of medical, surgical, operating room, obstetrics, and pediatric nursing. The Utah State Hospital in Provo, with a bed capacity of 701 and an average daily census of 570, provides experience in psychiatric nursing. The Health Department of Utah provides a generalized public health nursing program and offers field experience in nursing.

ASSOCIATE DEGREE

Ann Bruton, Director (LDS Health Service Center, Twelfth Avenue and "E" Street, Salt Lake City, Utah).

The Associate-Degree Program in nursing is designed to prepare competent bedside nurses who are qualified to take the State Board Test Pool Examination for licensure in Utah as registered nurses (R.N.)

Nursing encompasses a complex of functions which requires the services of competent practitioners with varying levels of preparation. Each of these levels represents a career in nursing and the opportunity for nurses to achieve excellence within the framework of their preparation.

The Associate-Degree Program will assist its graduates to

1. Grow in self-understanding and strive for perfection in their personal lives, as citizens in the community, and in their nursing careers.
2. Return to their communities and find satisfaction in achieving excellence as members of the nursing team.
3. Know the basic principles of nursing and utilize them effectively in giving direct nursing care, in staff nursing positions and in hospitals and similar institutions.
4. Communicate and relate effectively with others.
5. Think and reason more critically, and achieve basic skills in problem solving.
6. Welcome supervision and seek guidance appropriate with their level of preparation.
7. Recognize that the Associate-Degree Program does not provide preparation and experiences essential for leadership positions in nursing such as head nurse or supervisor.
8. Become eligible to take the State Board Test Pool Examination for licensure as a registered nurse.

Program Description

Five semesters are required to complete the Associate-Degree Program. The first semester (Summer session) is spent at Brigham Young University filling general education requirements to provide the foundation essential to nursing. As members of the University student body, students in nursing enjoy the same privileges and opportunities as do other students; they share in the rich social, cultural, recreational, and spiritual activities that are an important part of University life.

Beginning Fall Semester students go to the Salt Lake campus where they remain until the completion of the program. Here, they participate in the nursing science courses and in clinical practice, and continue general education courses.

The Latter-day Saints' Hospital, Primary Children's Hospital, Cottonwood Hospital, Valley West Hospital, and Bonneville Convalescent and Nursing Center provide excellent experiences in medical-surgical, pediatric, psychiatric, and maternity nursing. Selected community agencies are employed to supplement hospital clinical experience.

Requirements

Admission. All applicants must meet University admission requirements. The student registers in the College of Industrial and Technical Education from which college the Associate Degree in Nursing is granted.

Transfers, etc. Tranfers from another college within the University, or from another institution, should contact the dean of the College of Industrial and Technical Education or the director of the program, who in turn will present the case to the Admissions and Standards Committee for recommendations.

Progression. Continuance in the Associate-Degree Program is determined by health records and adaptability to nursing as evidenced by attitudes and skills, and grades.

An average grade of "C" (2.00) should be maintained in each clinical area to remain in the program.

Graduation. The Associate Degree in Nursing is conferred on candidates who fulfill University requirements for graduation. Graduates are eligible to take the State Board Test Pool Examination for licensure as registered nurses (R.N.).

Fees and Scholarships

See "University Fees" and "Scholarships" sections of this catalog. The cost of uniforms and caps should be added to University fees. Nursing scholarships may be available after the first semester for deserving students who have demonstrated ability and who have a grade-point average of 2.0 or above.

Counseling

Students are assigned to nursing counselors either on the Provo campus or the Salt Lake campus who assist in the selection of courses and the planning of a schedule.

Through planned conferences during the school year, the adviser carefully checks and keeps a written record of the academic progress, attitudes, skills, and health of each advisee.

College of Physical and Engineering Sciences

Armin J. Hill, Dean (271 ESC)

The college is divided into nine departments.

Chemical Engineering Science
Chemistry
Civil Engineering Science
Electrical Engineering Science
Geology
Mathematics
Mechanical Engineering Science
Physics
Statistics

Required High School Preparation

A student enrolling in the College of Physical and Engineering Sciences will find it necessary, in order to complete the prescribed curricula without loss of time, to have successfully completed the following high school courses or their equivalents:

3 units of English.

4 units of mathematics, consisting of two and one-half units of algebra, one unit of geometry, and one-half unit of trigonometry. This should be sufficient to qualify a student to commence college mathematics with analytic geometry and calculus.

1 unit of physical science which should be either chemistry or physics.

Because mathematics provides the foundation for all work in the physical and engineering sciences, particular attention is paid to the high school preparation in this subject. If his high school training is found to be deficient, an entering student will be required to take remedial work. He should recognize that the time required to complete his college program will probably be extended by the length of time necessary to make up these deficiencies.

A student who will not have completed all recommended courses by the time he graduates from high school may complete them through Home Study or other courses offered by Brigham Young University. High school seniors who have the time and ability may carry special courses which will be given college credit and which may be counted toward a baccalaureate degree. Information on any of these courses will be sent upon request.

Physical and Mathematical Science

The Departments of Chemistry, Geology, Physics, Mathematics, and Statistics each offer four-year courses leading to the degree of Bachelor of Arts or Bachelor of Science. Majors are offered in chemistry, chemistry teaching, predental chemistry, premedical chemistry, earth science, geology, mathematics, physics, and statistics.

Engineering Sciences

The engineering curricula at Brigham Young University have been established on a strong base of mathematics and science. Predictions made by the American Society for Engineering Education show that by 1975 there will probably be at least half as many master's degrees granted annually in engineering as there will be bachelor's degrees. Brigham Young Universiy has therefore developed curricula leading to the Master of Science degree in each of the four departments in the school of engineering (Chemical, Civil, Electrical, and Mechanical).

The Bachelor of Engineering Science degree is offered in each of these four departments. It is also offered in geological engineering in the Department of Geology. This program will require approximately five years for its completion by a student entering with average preparation. It has been arranged, in each of the departments, so that particularly well-qualified students can complete it in less time than this, and students who feel they might be able to do so should discuss the matter carefully with their advisers.

The Bachelor of Engineering Science curricula in chemical engineering, civil engineering, electrical engineering, and mechanical engineering are all accredited by the Engineering Council for Professional Development (ECPD).

Although exceptional students may complete these programs leading to the Bachelor of Engineering Science degree in less than five years, the programs are normally considered five-year programs and are accredited as such. It should be remarked that experience across the nation has shown that students enrolled in most of the so-called "four-year" engineering programs generally find it takes most of five years to complete them. We feel there are many advantages to be gained from a planned five-year arrangement as compared with a four-year curriculum which is so heavily crowded that only exceptional students can keep on schedule.

Brigham Young University also offers two-year technician programs, which lead to a degree of Associate of Science, and four-year technology programs leading to a Bachelor of Science degree. These are offered in the College of Industrial and Technical Education and are outlined on pages 107 to 112 in this catalog.

Students interested in training for careers in technology should carefully consider these alternatives to engineering. **It must be realized, however, that these are different KINDS of programs and that while technicians and technologists often work with engineers, and may even be classified as engineers in some kinds of employment, they will not have received training as professional engineers. They will generally find it necessary to take most of the undergraduate engineering courses if they ever desire to become graduate or professional engineers.**

Graduate Courses

Instruction leading to the degree of Doctor of Philosophy is currently offered in chemistry, geology, physics, and engineering (chemical, civil, electrical, and mechanical).

Instruction leading to a Master of Science degree is offered in chemical, civil, electrical, and mechanical engineering, and in chemistry, geology, mathematics, physics, and statistics.

Instruction leading to a Master of Arts degree is offered in chemistry and physics.

Each graduate student must meet all the requirements for advanced degrees as outlined by the Graduate School and as set forth in the Graduate School catalog. **The responsibility for knowing and fulfilling these requirements rests with the student.**

College of Physical Education

Milton F. Hartvigsen, Dean (212 RB)

This college, unique in American universities, consists of six departments:

Health and Safety Education
Intercollegiate Athletics
Physical Education—Men
Physical Education—Women
Recreation Education
Youth Leadership

The various departments offer undergraduate majors in (1) health and safety education, (2) physical education, with either a sports or dance emphasis, (3) recreation education, (4) youth leadership, and (5) prephysical therapy.

The college has two significant contributions to make: service to the students and faculty, and development of professional leaders. For the benefit of the general student body and faculty, this college sponsors an extensive health education program, a great variety of physical education activity courses, extensive intramural and extramural programs, supervised free-play activities, and numerous activity clubs. For the benefit of the student body, faculty, and loyal BYU supporters, the college sponsors an extensive and high-quality intercollegiate athletics program. And, for the benefit of those interested in majoring in one of the areas within the college, strong professional preparation programs are offered.

All students are encouraged to participate in a variety of intramural, extramural, free-play, and club activities. Those with exceptional athletic ability find additional rewarding opportunities in intercollegiate athletics, and all students are encouraged to support BYU's excellent athletic teams.

Through affiliation with the Western Athletic Conference and the National Collegiate Athletic Association, BYU provides opportunities in intercollegiate athletic competition in swimming, baseball, basketball, football, golf, gymnastics, tennis, track, cross-country running, and wrestling.

While opportunities for leadership by educated men and women are always unlimited, the demand is particularly high for those with professional preparation in areas within this college. Certification for teaching health or physical education in Utah may be completed at the time of graduation, and certification for teaching in other states may be arranged readily. Good positions in recreation and park leadership are available to qualified graduates, and those who major in prephysical therapy at BYU are successful in being admitted to various physical therapy schools. Brigham Young University is the first university to offer a major in youth leadership. The program is twofold: the training of men for professional scouting and the preparation of men and women to serve the Church and community in youth leadership positions.

Brigham Young University alumni have gone to all points of the globe and have actively guided communities and Church members into abundant and wholesome living. The Church of Jesus Christ of Latter-day Saints, through its beliefs and teachings, has developed a unique reputation in health practices and in family, Church, and community recreation. Brigham Young University, in harmony with the objectives of the Church, plans not only for participation by its members, but for active and exemplary leadership by them. It is a goal of the College of Physical Education to help achieve this.

Department of Health and Safety Education. The Department of Health and Safety Education offers a four-year program leading to the degree of Bachelor of Science in health education, with a teaching emphasis or a nonteaching emphasis. Students completing the teaching major are prepared to teach in public schools. Those completing the nonteaching degree program may be employed by governmental or voluntary health agencies or may elect to work toward a master's degree in public health at an approved university.

A driver and safety education minor, approved by the State of Utah, qualifies a teacher to teach driver education in the public schools.

The department also offers a graduate program leading to a Master of Health Education degree (no thesis required) and a program leading to a Master of Science degree (a thesis required).

Department of Intercollegiate Athletics. Brigham Young University is a member of the Western Athletic Conference and the National Collegiate Athletic Association. The school competes in all sports sponsored by the conference.

The athletic program at Brigham Young University serves as a vital educational training ground and laboratory, dedicated to teaching young men important individual traits which will better enable them to perpetuate the American tradition. The program is designed to develop such characteristics as ability to lead and direct, respect for discipline and authority, social and moral understanding, ability to act effectively under stress, self-discipline in the interest of accomplishment, and determination to overcome obstacles. Individual and team competition promotes cooperation, sportsmanship, health, strength, and bodily vigor in the participants.

Departments of Physical Education. These departments, one for men and one for women, work together in providing (1) service courses, (2) professional education for prospective teachers of physical education and athletic coaches on the undergraduate and graduate levels, and (3) special curricula in dance and prephysical therapy.

Physical education is planned to develop organic power and efficiency, physical fitness, skill in activities, sports knowledge, and enthusiasm for useful and desirable pursuits during leisure time throughout life. The program is also planned to develop social traits and attitudes which will prepare students for leadership roles in college, Church, family, and community life. Many courses are offered on a coeducational basis.

Department of Recreation Education. The department has a number of basic functions in fulfilling its responsibility to the students, the University, the Church, and the professional. Among the responsibilities specifically recognized are: (1)prepare professional leaders in recreation education, (2) qualify voluntary leaders for church and community service, (3) provide and supervise recreational activities for students and faculty, (4) sponsor entertainment groups, such as International Folk Dancers, Ballroom Dance Team, and competitive teams not sponsored by the Western Athletic Conference (volleyball, rugby, soccer, skiing), and (5) provide consultation service for campus, community, and state groups. To meet these responsibilities the department has developed an expanded curriculum and secured many new facilities (others are being planned for the immediate future) and a well-prepared faculty.

The general purpose of the expanding intramural program is to afford all students the opportunity to take part in a well-organized program which includes a wide range of activities. An extensive program for both men and women is provided.

Department of Youth Leadership. The Department of Youth Leadership offers a relatively new field of career preparation for the college student. Extensive professional opportunities are now available to the graduate who has been prepared to administer the many national and local youth programs that require specialized leadership.

The student may select a curriculum particularly suited to prepare him for executive leadership with the Boy Scouts of America, or he may choose a broader field of preparation that will qualify him for employment by boys'-club organizations, youth associations, achievement programs, and other such groups. Youth associations for girls, Girl Scouts, Campfire Girls, etc., demand professionally prepared women to administer their programs. A major or minor in youth leadership provides a graduate with excellent employment opportunities.

A second objective of the department, and one of far-reaching purpose, is to prepare graduates, regardless of their professional interests, for skilled volunteer leadership of youth. Such leadership is desperately needed by the Church and community organizations.

College of Religious Instruction

Daniel H. Ludlow, Dean (144 S)

The following departments are in the College of Religious Instruction:

Undergraduate Studies in Religious Instruction
Graduate Studies in Religious Instruction

This college administers all religious instruction sponsored by the University.

It always has been the view of The Church of Jesus Christ of Latter-day Saints that in the training of its youth there should be a proper integration of moral and religious knowledge and values with secular knowledge. From its inception, Brigham Young University, firm in the belief that no life is full and complete unless established upon a sound ethical and religious basis, has offered courses in religion.

Many courses in the College of Religious Instruction are available to the undergraduate student, although no bachelor's degree is offered by this college. The basic philosophy underlying the educational process at Brigham Young University is that an undergraduate student study religion simultaneously with his study of the other academic disciplines. Therefore, a student will take a course in religion each semester he is in residence rather than accumulating excessive religion credit in one semester in order to be excused from religion in another semester.

For general education requirements in religion, see the Student Academic Services section of this catalog.

Graduate Studies in Religion

The Graduate Department of Religious Instruction offers six graduate degrees: Master of Religious Education (M.R.E.), Doctor of Religious Education (D.R.E.), Master of Arts in History of Religion (M.A.), Doctor of Philosophy in History of Religion (Ph.D.), Master of Arts in Scripture (M.A.), and Doctor of Philosophy in Scripture (Ph.D.). For a statement of the detailed requirements for each of these degrees, consult the Graduate School Catalog.

INSTITUTE OF MORMON STUDIES

Truman G. Madsen, Director (165 S)

The Institute of Mormon Studies is an interuniversity institute established to sponsor and correlate, and eventually to select and publish, research efforts in all fields that relate to Mormon culture, its history, thought, and institutions. The institute serves as a cross-disciplinary organization projecting long-range research goals and encouraging the work of established specialists.

At present the institute is functioning to develop authentic bibliographies and indexes of various Mormon-related source materials and collections; to honor distinguished scholarship by research grants and publication aids of high-quality research; and to establish a close-working relationship, not only with recognized scholars, but with associations of similar interest, and with individuals or institutions disposed to contribute to or draw upon the developing resources of the institute.

INSTITUTE OF BOOK OF MORMON PROJECTS

Paul R. Cheesman, Director (220 S)

The Institute of Book of Mormon Projects has been organized under the College of Religious Instruction for the purpose of correlating and promoting research and other studies related to the Book of Mormon. The institute will help to plan, develop, produce and distribute materials related to this sacred Nephite scripture.

College of Social Sciences

John T. Bernhard, Dean (390 M)

The following departments and special programs are available in the College of Social Sciences:

- Anthropology and Archaeology
- Asian Studies
- Economics
- Geography
- History
- International Relations
- Political Science
- Psychology
- Russian Studies
- Sociology
- Undergraduate Social Work

Man, himself, has always been a most fascinating study—what he has done, what he has thought, what he has said and how he has reacted to problems confronting him.

The social sciences study activities and relationships of man: his nature, his power to communicate, his environment, what motivates him, how his activities progress, the institutions he has created, and the important social and governmental problems with which he must deal. The social sciences are therefore related disciplines whose purpose is to help man live in the most intelligent and satisfying manner, and they utilize the modern methods of science: controlled observation, laboratory experimentation whenever possible, statistics, and analytical reasoning. Their potential significance for a troubled world is tremendous.

There are two large purposes for which the instructional program of the College of Social Sciences is designed. One is the provision of a broad education to assist those who obtain it to receive in the fullest measure the values to be found in today's complex civilization and to contribute to the enlargement of those values in an effective, acceptable manner. The other is the preparation of a more limited group as qualified contributors to the discovery of additional truth to add to our present heritage and as capable professional participants in the productive affairs of daily living.

Courses intended to contribute to the first purpose are offered as a service to all students in the University. Career programs for those who choose to do their major work in this college are offered in each department. Advisers stand ready to consult with students in the selection of studies that will contribute most effectively to a broad education and to specialized training in each department.

List of Courses

Semester System. Courses of study at Brigham Young University are offered and credit for satisfactory completion is granted on a semester basis.

Course Numbering System. Level of instruction of courses is shown by the numbers assigned:

Course Number	Type of Course
1 to 99	Preparatory and remedial (noncredit)
100 to 299	Lower division
300 to 499	Upper division
500 to 599	Advanced undergraduate or graduate
600 to 799	Graduate

Credit-Hour Designation. The three-number code which appears in parentheses immediately after each course title has the following significance:

First number:	Semester hours of credit
Second number:	Class hours of lecture, recitation, or seminar meeting per week or Minimum hours of individual study required per week
Third number:	Laboratory hours required per week or Hours of field study or individual research per week

Abbreviations and Symbols. The following abbreviations and symbols are used in the List of Courses Section:

Arr.	Class or laboratory hours arranged
ea.	Credit-hour designation applies to each course number listed
F., S., Su.	Fall or Spring Semesters or Summer Session
G-BS	Fulfills general education requirements in biological science
G-HA	Fulfills general education requirements in humanities and aesthetics
G-PS	Fulfills general education requirements in physical science
G-R	Fulfills general education requirements in religion
G-SS	Fulfills general education requirements in social science
m	Designates course which may be used to fulfill requirements for a minor
*	In Administration and Faculty Section and in departmental faculty listings, faculty member on leave In Student Academic Services Section general education courses which have prerequisites.
□	Course originating in one department which may count for credit in another department

Cross Referencing of Courses. Each course is listed completely only once in the catalog. If the course may count in another department, it is listed in abbreviated form in that department and is preceded by a special symbol, □.

Interdisciplinary Courses. Interdisciplinary courses are taught in several areas. In the course listing which follows, these courses, such as agricultural education, devotional and forum assemblies, humanities, and physical science, appear.

Graduate Courses. For regulations governing study beyond the bachelor's degree, see the Graduate School Section of this catalog and the Graduate School Catalog. Advanced undergraduate or graduate courses (500 series) may be used for graduate credit with certain limitations.

Reservation of Right to Change Courses. At the time of printing of this catalog, the University intends to give the courses listed herein, but reserves the right to eliminate or discontinue any of them or to add courses.

Accounting

Professors: Andersen, Johnson, Orton, Skousen (chairman, 350 JKB), Smith, Taylor.

Associate Professors: Hubbard, Woodfield.

Assistant Professors: Garrison, McAllister, Sonderegger, White.

Instructors: Herde, Palmer, Wanlass.

The Department of Accounting trains students in the use of objective measuring methods in the financial dealings of business and attempts to develop men of high professional status in the use, analysis, interpretation, and projection of accounting data. The accountant must be aware of the dynamic changes in general business methods and goals and must develop practical methods of measuring and reporting these changes accurately and of integrating them into acceptable accounting terminology and procedures.

The training given leads to three principal areas of service: (1) the certified public accountant who serves industry and the public as an independent professional man skilled in accounting and auditing techniques; (2) skilled personnel in electronic data processing who must develop superior methods in the use of new, reliable, and communicable measures of performance which will aid in guiding the business and the economy in periods of rapid change; and (3) the controller or industrial accountant who can serve effectively in the management team, being conversant with and sensitive to the progressive innovations taking place in business. In this area the Accounting Department provides an opportunity for students to acquire the business management perspective which will qualify them for administrative positions. In addition to these three principal areas the accountant may engage in government service or enter the teaching profession.

Requirements

Students desiring to major in accounting must have completed the University general education requirements and the following College of Business core requirements.

Math. 108 (or equivalent)	4 hours
Econ. 111, 112	6 hours
Stat. 221	3 hours
Acctg. 201, 202, 232	9 hours

At the time the student transfers into the Department of Accounting he must have completed at least 62 semester hours of course work and have a 2.25 grade-point average in the college core courses. Prior to the completion of these requirements the student will be assigned to the Division of Business Fundamentals of the College of Business for advisement. See College of Business requirement.

Three-Year Master's Program. The Department of Accounting also offers the Three-Year Master's Degree Program. Students are permitted to enter this program at the beginning of their junior year in college and complete the program at the end of one year of graduate study. Details of this program may be obtained from the chairman of the Department of Accounting.

Majors. Majors in the Department of Accounting are required to take the courses listed below:

Bus. Mgt. 321 or 340, 347, 348	9 hours
Econ. 301 or 302	3 hours
Acctg. 301, 302, 312, 342, 356, 420, 475 and a minimum of three additional hours selected from course offerings originating in the Department of Accounting with the approval of the student's adviser. (Acctg. 596 and 600 numbered courses may not be selected for this purpose.) No more than 3 hours of "D" grade in accounting will be accepted toward graduation	24 hours

Students in accounting completing the college core and department requirements have a composite minor in business management and economics. Majors in the department may complete a second minor if they so desire.

Minors. Minors in the Department of Accounting should take the following courses:

Acctg. 201, 202, 301, and any additional six or more hours from the course offerings of the Department of Accounting except 232, 596, and 600 numbered courses.

Suggested Program for Accounting Majors

A suggested program which can be followed by accounting majors is given below. Each student will need to make modifications in this program to meet his individual problems. Courses marked with an asterisk (*) are required for graduation by the University, college, or department.

Junior Year	**Hours**
*Undergrad. relig. and dev. assy.	5
*Acctg. 301, 302 (Intermediate)	6
*Acctg. 312 (Cost)	3
*Acctg. 342 (Introduction to Commercial Law)	3
*Acctg. 356 (Accounting Information Systems)	3
*Bus. Mgt. 347 (Marketing Management)	3
*Econ. 301 (Income Analysis) or 302 (Price Analysis)	3
Acctg. 332 (Advanced Business Mathematics)	3
Bus. Ed. 320 (Report and Business Writing)	3
Forum assy.	1
	33

A number of alternatives are available to students in their senior year. Four plans are given below. Students should work closely with their adviser in selecting the program which will best meet the occupational and educational objectives.

Senior Year

No. 1. General Accounting Course	**Hours**
*Undergrad. relig. and dev. assy.	3
*Acctg. 420 (Federal Taxes)	3
*Acctg. 475 (Current Problems in Accounting Theory)	3
*Bus. Mgt. 340 (Production Management) or 321 (Organizational Behavior and Administration)	3
*Bus. Mgt. 348 (Financial Management)	3
Acctg. 442 (Advanced Business Law)	3
Acctg. 465 (Auditing Theory)	3
Bus. Mgt. 380 or 381 (Executive Lectures)	1
Forum assy.	1
Electives	9
	32

No. 2 Controllership and Industrial Accounting	**Hours**
*Undergrad. relig. and dev. assy.	3
*Acctg. 420 (Federal Taxes)	3
*Acctg. 475 (Current Problems in Accounting Theory)	3
*Bus. Mgt. 340 (Production Management) or 321 (Organizational Behavior and Administration)	3
*Bus. Mgt. 348 (Financial Management)	3
Acctg. 465 (Auditing Theory)	3
Acctg. 412 (Advanced Cost Accounting)	3
Stat. 330 (Statistical Methods Used in Business)	3
Bus. Mgt. 380 or 381 (Executive Lectures)	1
Forum assy.	1
Electives	6
	32

No. 3. Electronic Data Processing	**Hours**
*Undergrad. relig. and dev. assy.	3
*Acctg. 420 (Federal Taxes)	3
*Acctg. 475 (Current Problems in Accounting Theory)	3
*Bus. Mgt. 340 (Production Management) or 321 (Organizational Behavior and Administration)	3
*Bus. Mgt. 348 (Financial Management)	3
Acctg. 557 (Advanced Computer Programming)	3
Stat. 330 (Statistical Methods Used in Business)	3
Bus. Mgt. 380 or 381 (Executive Lectures)	1
Forum assy.	1
Electives	9
	32

No. 4 Professional Public Accounting	**Hours**
*Undergrad. relig. and dev. assy.	3
*Acctg. 420 (Federal Taxes)	3
*Acctg. 475 (Current Problems in Accounting Theory)	3
*Bus. Mgt. 340 (Production Management) or 321 (Organizational Behavior and Administration)	3
*Bus. Mgt. 348 (Financial Management)	3
Acctg. 442 (Advanced Business Law)	3
Acctg. 412 (Advanced Cost Accounting)	3
Acctg. 465 (Auditing)	3
Bus. Mgt. 380 or 381 (Executive Lectures)	1
Stat. 330 (Statistical Methods Used in Business)	3
Forum assy.	1
Acctg. electives	3
	32

Courses

201. Elementary Accounting. (3:3:1) F.S.Su. Home Study also. (m)

A first course in the concepts and methods underlying financial statements.

202. Elementary Accounting. (3:3:1) F.S.Su. Home Study also. (m) Prerequisite: Acctg. 201.

The second course in the elementary series covering managerial problems and the control of business operations.

☐ **Business Education 206. Calculating and Posting Machines.** (2:3:2)

232. Mathematics of Business. (3:3:1) F.S.Su. Prerequisite: Math. 108.

Application of mathematics to business problems.

301, 302. Intermediate Accounting. (3:3:0 ea.) F.S.Su. Home Study also. (m) Prerequisite: Acctg. 202.
Intermediate course in accounting for general business students and for majors who need a broad foundation for specialized studies which they will take later.

312. Cost Accounting. (3:3:0) F.S.Su. (m) Prerequisite: Acctg. 301.
An introduction to the principles and practices of cost accounting.

□**Business Education 320. Report and Business Writing.** (3:3:0)

332. Advanced Mathematics of Business. (3:3:0) F. (m) Prerequisite: Acctg. 232 or Math. 111 or consent of instructor.
Selected topics from finite mathematics, vectors, and matrices, trigonometry, analytical geometry, and elementary differential and integral calculus as applied to business.

342. An Introduction to Commercial Law. (3:3:0) F.S.Su. Home Study also. (m)
A survey of modern American business law as it applies to everyday business practices.

356. Accounting Information Systems. (3:3:0) F.S.Su. (m) Prerequisite: Acctg. 202.
Procedures and problems in system design and related topics applied to the financial operations of the business with special emphasis on electronic computer systems.

412. Advanced Cost Accounting. (3:3:0) (Offered alternate semesters) (m) Prerequisite: Acctg. 312.
Budgeting, standard costs, cost analysis, and capital budgeting.

420. Federal Taxes. (3:3:1) F.S.Su. (m) Prerequisites: Acctg. 202 and preferably Acctg. 301.
Basic federal tax legislation and regulations.

442. Advanced Business Law. (3:3:0) S. (m) Prerequisite: Acctg. 342.
Business law for accountants and businessmen, with emphasis on laws covered in professional accounting examinations.

465. Auditing Theory and Professional Ethics. (3:3:0) F.S.Su. (m) Prerequisites: Acctg. 302 and 312.
Principles and methods of public accounting, professional responsibility and conduct, and verification techniques of accounts and financial statements.

475. Current Problems in Accounting Theory. (3:3:0) F.S.Su. (m) Prerequisites: Acctg. 302 and 312.
Studies in current accounting theory.

501. Advanced Accounting. (3:3:0) F.S. and alternate summers. (m) Prerequisite: Acctg. 302.
Includes joint ventures, consignments, installments, receiverships, estates and trusts, statement of affairs, and municipal and governmental accounting.

502. Advanced Accounting. (3:3:0) F.S. and alternate summers. (m) Prerequisite: Acctg. 302.
Home office and branch accounts and parent and subsidiary accounting.

503. Accounting for Nonprofit Organizations. (3:3:0) (m) Prerequisite: Acctg. 302.
Accounting concepts and methods peculiar to governmental units, universities, hospitals, and other nonprofit organizations.

521. Advanced Tax Problems. (3:3:0) F.S. and alternate summers. (m) Prerequisite: Acctg. 420.
Advanced study of federal income tax, estate and gift taxes, and special problems in corporate taxation.

555. Data Processing Systems. (3:3:0) F. (m) Prerequisite: Acctg. 356.
Principles governing design and installation of accounting systems and the selection of equipment for optimum performance in data processing cycles.

557. Advanced Computer Programming. (3:1:3) S. (m) Prerequisite: Acctg. 356.
Emphasis on the solution of practical problems in data processing. Individual work on the University's computer and comparison of various computers in current use.

596. Accounting Internship. (1-3:3:Arr.) F.S.Su. Recommended prerequisite: Acctg. 465.

612. Managerial Cost Accounting. (3:3:0) F.S. and alternate summers. Prerequisites: Acctg. 302 and 312.
Study of specialized areas in cost determination and cost allocation.

615. Controllership. (3:3:0) F.S. and alternate summers. Prerequisites: Acctg. 302 and 412 or 612.
Profit planning, control techniques, interpretation of data, and policy formulation.

621. Tax Research and Planning. (3:3:0) (Offered alternate semesters) Prerequisite: Acctg. 420 and preferably Acctg. 521.
Research and solving of tax problems using the tax code, regulations and other sources.

675. Theory of Accounts and Statements. (3:3:0) F.S. and alternate summers. Prerequisites: Acctg. 302 and 312.
History and development of accounting and financial statements, their meaning and interpretation. Problems in current accounting theory will be considered.

686, 687. CPA Problems. (3:3:1 ea.) F.S. Prerequisites: Acctg. 302, 420, and completion of or concurrent registration in Acctg. 465, 501, 502.
Preparation for professional examination.

691. Seminar in Research Methodology. (1:1:0) F.S.Su. Prerequisite: approval of graduate advisory committee.
Study of basic research methods.

692. Research Seminar. (2:2:0) F.S.Su. Prerequisite: approval of graduate advisory committee.
Seminar in current topics. Includes writing a research paper in proper form.

693. Reading and Conference. (1-2:1-2:0) F.S.Su.
Subject to be arranged with instructor.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.
This course number should also be used for continuing registration by students working on thesis.

Aerospace Studies

Professor: Lt. Colonel Lloyd (chairman, 20 T-15).

Assistant Professors: Major Heckel, Major Griffith, Captain Radichel.

Instructors: M/Sgt. Van Houten, S/Sgt. Davis, S/Sgt. Ramirez, S/Sgt. Wilstead.

General Information. AFROTC is a voluntary program designed to produce highly qualified commissioned officers for the U.S. Air Force. The cadet specializes in the major field of his choice and graduates able to function as a junior executive. The aerospace studies courses supplement his academic major and are designed to teach principles and techniques of leadership and management in preparation for service as a commissioned officer in the air force and as a leader in civic and community affairs.

Eligibility. The beginning student must be a citizen of the United States and able to graduate from the program and the University by his 30th birthday. Two programs are offered and the student qualifies under the one which best meets his needs. (1) The Four-Year Program: this is the traditional collegiate ROTC program. It extends over the full four years of college. In this program all members attend a four-week field training at an air force base, normally between the junior and senior year of college. (2) The Two-Year Program: this new Air Force ROTC program allows a member to complete all requirements for an air force commission in two years of college. After meeting admission requirements, the applicant is sent to a six-week field training at an air force base during the summer. Upon return to college, the qualified applicant is enrolled in the two-year program.

Physical and academic standards for the basic course (freshman and sophomore) are the same as those of the University. To qualify for the advanced program under either the two- or four-year program, the cadet must pass a mental and physical examination during the sophomore year. At the beginning of the Fall Semester of his junior year, and with the approval of the University President, he executes an agreement to complete the last two years of AFROTC, attend four weeks' field training (except two-year students) and serve a tour of active duty with the air force upon graduation. He also is sworn into the air force reserves. Until these actions are completed, a student incurs no military obligation.

Enrollment. AFROTC is normally completed at the time of graduation. Four-year students normally enroll in AFROTC during their first or second semesters at BYU. Two-year applicants normally begin their processing during Fall Semester of their sophomore year and formally enter the program at the beginning of their junior year. Students desiring to enter the program at other times should consult the professor of aerospace studies.

Minor in Aerospace Studies: An academic minor in aerospace studies has been approved. Students desiring aerospace studies as a minor must complete the AFROTC requirements (including at least 14 hours of course work) and qualify for a commission in the United States Air Force. See the chairman of the Aerospace Studies Department for detailed information.

Textbooks, Uniforms, and Allowance. All items of the air force uniform and AFROTC textbooks are furnished by AFROTC. Full scholarships are available to AFROTC cadets in the four-year program on a competitive basis. These scholarships include fees, tuition, $75 per year text allowance, and $50 per month monetary allowance. All other students in the advanced program receive from the air force a monetary allowance of $50 per month or about $1,000 for these two years. For further information, see the professor of aerospace studies.

Field Training. Field training at an air force base is a supplement to the academic program. This training develops in the cadet a better understanding of the air force mission and operation. Cadets receive additional practical experience in leadership and management in realistic situations on an air force base. The program emphasizes flying for those physically qualified and normally includes flight in a jet aircraft for each cadet. Cadets receive medical care, food, and clothing while attending the course. Cadets under the two-year program receive approximately $125.00 in pay for their six-week training and students under the four-year program receive about $120.00 for their four-week training. In addition, all cadets receive travel pay of $.06 per mile to and from the training base.

Flight Instruction Program. A flight instruction program is conducted at the Provo Airport by an accredited flying school. Senior cadets who qualify for pilot training are eligible to participate. Thirty-six and one-half hours of flying instruction are given, qualifying the student for a private pilot's license. Ground school instruction in navigation, weather, flight rules, and other appropriate subjects is given by USAF flying officers assigned to the Department of Aerospace Studies.

Orientation Flights. A series of orientation flights in air force aircraft is scheduled each year. Each cadet normally will have the opportunity of visiting air force bases and aircraft assembly plants. These flights, as well as those flights in jet aircraft at the field training, are flown by experienced air force pilots.

Extracurricular Activities. Each AFROTC cadet will be able to extend his academic and laboratory associations into many extracurricular activities. Among these activities are the Arnold Air Society, the AFROTC Chorus, the AFROTC Band, briefing teams, the annual Military Ball, and the many school service projects performed by the Cadet Corps. Cadet associations and friendships formed during this period continue long after college.

LDS Missions: Students called on LDS missions will be released from the AFROTC program during their freshman and sophomore years. It would be advantageous to the student to go on a mission between the freshman and sophomore years to facilitate selection into the advanced course.

Period of Nonattendance. Four-year-program students in AFROTC who are in a five-year program are allowed a year of nonattendance between the basic and advanced courses. During this period cadets remain deferred from the draft. They must, however, participate in leadership laboratory.

Draft Deferment. Students enrolled in the AFROTC program may be deferred from the draft after they have completed one or two semesters of aerospace studies.

Discipline. AFROTC cadets are civilians and are not subject to military law. Disciplinary training in the Cadet Corps is formulated and administered by the cadets themselves. Cadets are subject to the rules and regulations of the Department of Aerospace Studies and of the University. Violation of rules may mean discharge from the AFROTC program.

Veterans. One of the reasons the University sought the AFROTC program was to offer students, including veterans, an opportunity to improve their status. A veteran seeking a commission through AFROTC may have that part of the freshman and sophomore program waived which corresponds with military credit on his record. He should have at least four semesters remaining prior to graduation, which must be before his 30th birthday. Interested veterans should consult the professor of aerospace studies. Allowances are paid in addition to GI Bill benefits.

Course Fee. A $14.00 course fee is required of each participating student at the beginning of each school year. The purpose of this fee is to help offset uniform maintenance costs and to cover insurance and activity expenses.

The Program

The AFROTC program is designed to fit into the regular academic schedule of the University. It consists of leadership laboratory, field training, and academic classes. The first two years for four-year students are designed to acquaint students with world military systems and present world conditions. The curriculum for the final two years for students on either the two-year or the four-year program emphasizes problem solving, research methods, communications techniques, human relations, creative thinking, management and leadership. It also is designed to provide an understanding of the United States Air Force and the many opportunities available to an air force officer.

A leadership laboratory is required each semester for each four-year and two-year student.

The academic program is taught by highly qualified air force officers and all academic work counts toward graduation requirements with several classes also meeting general education requirements.

The following is the normal sequence of AFROTC classes for four-year students. (Two-year students would follow the junior and senior schedule.)

Freshman Year

	F	S
AS 110, 111	½	½
AS 120, 121	1	1

Sophomore Year

	F	S
AS 220, 221	½	½
AS 210, 211	1	1

Junior Year

	F	S
AS 310, 311	3	3
AS 330, 331	½	½

Senior Year

	F	S
AS 410, 411	3	3
AS 440, 441	½	½

Students qualifying for the Flight Instruction Program will also take Aerospace Studies 420 first block, Fall Semester of their senior year. This is a noncredit course.

Out-of-phase students and those who will be student teaching should consult the department chairman.

Courses

110, 111. Leadership Laboratory—Freshmen. (½:0:2 ea.) F.S.
A practical learning situation teaching basic fundamentals of military drill, self-discipline, military courtesy, military organization, and various skills required at increasing levels of responsibility.

120. Concepts on the Defense of the United States. (1:1:0) F. Prerequisite: must comply with any air force entry requirements.
A survey on the nature and principles of war, national power and policies, and the structure and mission of the U.S. defense establishment.

121. The U.S. Strategic Offensive and Defensive Forces. (1:1:0) S. Prerequisite: AS 120 or permission of the department chairman.
Survey on the purpose, structure, and functions of the U.S. strategic offensive and defensive forces.

210. U.S. Combat Forces and the Free World. (1:1:0) F. Prerequisite: AS 121 or permission of the department chairman.
Survey on U.S. commitments to the collective defense of the free world; U.S. capabilities in limited war and counterinsurgency; and the functions of U.S. combat elements.

211. Aerospace Support Forces and the Struggle for Peace. (1:1:0) S. Prerequisite: AS 210 or permission of the department chairman.
Study of the mission of the U.S. aerospace support forces; the basic conflict between democracy and communism; the international alliances and contemporary proposals in the pursuit of peace.

220, 221. Leadership Laboratory—Sophomores. (½:0:2 ea.) F.S.

310. Growth and Development of Aerospace Power. (3:3:0) F.
Junior year: The air force today—how it evolved. Includes nature of military conflict; development of aerospace power; and doctrine, mission, organization, and employment of aerospace forces.

311. Astronautics and Space Operations. (3:3:0) S. (m)
Junior year: Current aerospace developments and their future implications. Includes discussion of national space effort, space vehicle systems and associated problems, and current and planned space operations.

330, 331. Leadership Laboratory—Juniors. (½:0:1) F.S. (m)

410. Leadership and Management. (3:3:0) F. Prerequisites: AS 310-311.
Senior year: Study of principles of leadership and management, problem solving, communication, discipline and human relations.

411. The Professional Officer. (3:3:0) S. (m) Prerequisites: AS 310-311.
Senior year: Study of professionalism, air force personnel policies, military justice system, data processing orientation, air force control system and a briefing for commissioned service.

440, 441. Leadership Laboratory—Seniors. (½:0:2 ea.) F.S. (m)

AFROTC Cadet Color Guard lowering the flag

Agricultural Economics

Professors: Corbridge, Fuhriman, Nelson.

Associate Professor: Infanger (chairman, 370 HGB).

The Department of Agricultural Economics emphasizes the business and economic aspects of agriculture. A wide range of electives permits a student in this department to choose course work from many different areas. The student should work with advisers from the department to adapt his study program to his particular interests and needs.

Twenty-four hours, including Agr. Econ. 112, 325, 410, 490, 590; Econ. 111; and Statistics 221, are required for a major in agricultural economics and students are encouraged to take either Econ. 302 or Agr. Econ. 525 in addition to the other five credits chosen in agricultural economics. Students should include Pol. Sci. 110 and Econ. 274 to satisfy the American history and government requirement. Students minoring in agricultural economics should include Agr. Econ. 112, 325, and 410. Transfer students majoring in this department must earn at least 12 credit hours in their major field at Brigham Young University; those minoring must earn at least 7 credit hours.

A student is encouraged to concentrate on one of the following three options: (1) basic agriculture, for those returning to the farm and primarily interested in production courses; (2) preprofessional, for those planning graduate study; or (3) agri-business, for those principally interested in the business aspects of farming or in seeking employment in related business areas.

Basic Agriculture Option. A student electing this option is advised to consider:

Agr. Econ. 112, 320, 325, 326, 350, 360, 410, 425, 525, 580.
Hort. 102 and/or 103.
Agron. 151, 282 and/or 302, 305, 310, 351, 455, 457.
An. Sci. 153, 207 and/or 161, 374.
Indus. Ed.—classes as needed.
Econ. 111.
Math. 101, 105 or 108.
Stat. 221.
Bot. 110 and/or 365.

Preprofessional Option. A student anticipating graduate training is advised to obtain a good background in mathematics, statistics, and economic theory.

The following classes should be included:

Agr. Econ. 112, 325, 410, 525.
Econ. 111 and/or 301, 302, 289.
Math. 105, 106 and 112 or Acctg. 332.
Stat. 221, 336 and/or 337.

Additional classes are recommended from among the following:

Agr. Econ. 320, 326, 350, 360, 425, 490, 580, 590.
Agron. 282 and/or 151.
An. Sci. 207 and/or 153.
Econ. 411, 412.

Hort. 102 and/or 103, 310.
Stat. 337.

Agri-Business Option. Business training, probably leading to a minor in business management and/or accounting, is emphasized in this option. Recommended courses include

Agr. Econ. 112, 325, 410 and one or more of 320, 326, 350, 360, 425, 490, 525, 580, 590.
Agron. 282 and/or 151.
An. Sci. 207 and/or 153.
Hort. 102 and/or 103, 310.
Acctg. 201, 202, 301, 302, 312 and/or 420.
Bus. Mgt. 256, 321, 357, 451, 454, 455, 467, 469.
Econ. 111, 301, 302.
Geog. 231.
Stat. 221, 336 and/or 337.
Bus. Ed. 220 and/or 320.
Commun. 211.
Speech 101, 102.

The following sequence of courses is recommended:

Freshman Year	**Basic Agriculture**		**Pre-professional**		**Agri-Business**	
	F	**S**	**F**	**S**	**F**	**S**
Undergrad. relig.	2	2	2	2	2	2
Health 130	2		2		2	
P.E.	½	½	½	½	½	½
Math. 105 or 108	3 or 4		3 or 4		3 or 4	
Engl. 111, 112	3	3	3	3	3	3
Agr. Econ. 112	3		3		3	
Pol. Sci. 110		3		3		3
Dev. assy.	½	½	½	½	½	½
Forum assy.	½	½	½	½	½	½
Humanities and fine arts		2		2		2
One (or more) of the following: Agron. 151; An. Sci. 153, 207; Micro. 121; Bot. 101; Hort. 102, 103; Zool. 105.	5	3	5	3	5	3
Total Hours	16½	17½ or 18½	16½	17½ or 18½	16½	17½ or 18½

Sophomore Year	**F**	**S**	**F**	**S**	**F**	**S**
Undergrad. relig.	2	2	2	2	2	2
P.E.	½	½	½	½	½	½
Chem. 101		5		5		5
Econ. 111		3*		3		3
Econ. 274	3		3		3	
Acctg. 201			3		3	
Agr. Econ. 350	3		3		3	
Dev. assy.	½	½	½	½	½	½
Forum assy.	½	½	½	½	½	½
Biol. sci.	3	3	3		3	
Electives	2			3		3
Electives from the areas of **an. sci., agron., hort.**	3	3		3		3
Total Hours	17½	17½	15½	17½	15½	17½

*Optional

Junior Year

	F	S	F	S	F	S
Undergrad. relig.	2	2	2	2	2	2
Agr. Econ. 325	4		4		4	
Agr. Econ. 326		2				2
Agr. Econ. 410		4		4		4
Statistics 221	3		3		3	
Econ. 311				3		3
Agr. Econ. 320	2		2		2	
Agr. Econ. 360		2				2*
Acctg. 332 or Econ. 389			3		3*	
Dev. assy.	½	½	½	½	½	½
Forum assy.	½	½	½	½	½	½
Phys. sci.		3		3		3
Humanities and fine arts	2		2		2	
Electives	4	4	1	5	1	1
Total Hours	18	18	18	18	18	18

*Optional

Senior Year

	F	S	F	S	F	S
Undergrad. relig.	2	2	2	2	2	2
Agr. Econ. 425		3		3*		3
Agr. Econ. 490, 590	1	1	1	1	1	1
Agr. Econ. 525				2		
Agr. Econ. 380, 580	2	2*	2*	2	2*	2
Econ. 453				3	3	
Dev. assy.	½	½	½	½	½	½
Forum assy.	½	½	½	½	½	½
Electives	12	9	12	4	9	9
Total Hours	18	18	18	18	18	18

*Optional

Courses

101. Principles of Agricultural Economics. (3:3:0) S. (G-SS)

A terminal course in economic principles and problems—a broader, less intensive coverage than in Agricultural Economics 112—similar to Economics 101.

☐**Econ. 111, 112. Introduction to Economic Principles and Problems.** (3:3:0 ea.)

112. Economics and Agriculture. (3:3:0) F.S. Home Study also. (G-SS m)
Corbridge, Infanger

Basic general education course in economics with special reference to the agricultural sector of the economy.

☐**Math. 105. College Algebra.** (3:4:0) or **Math. 108. Basic Analysis.** (4:4:1)

☐**Math. 112. Analytical Geometry and Calculus.** (5:5:0)

☐**Stat. 221. Principles of Statistics.** (3:3:0)

☐**Econ. 311. Income Analysis.** (3:3:0)

☐**Econ. 312. Price Analysis.** (3:3:0)

320. Agricultural Business Organizations and Principles of Management. (2:2:0) F. (m) Prerequisite: Agr. Econ. 112 or consent of instructor. Infanger

Organizational structure, problems, and relative importance of the types of business units with which agriculture is concerned, and planning the organization and operation of the business.

325. Farm and Ranch Management. (4:3:3) F.S. Home Study also. (m) Prerequisite: Agr. Econ. 112. Corbridge

Principles of farm management, including basic economic principles of optimum resource combination, farm records useful for income tax and farm management purposes, and budgeting procedures.

326. Farm Management Programming. (2:2:0) S. (m)

Application of electronic computers to the maintenance and analysis of farm-ranch production and financial records, with special emphasis on linear programming as an aid in determining maximum profit combinations of resources and enterprises.

☐**Acctg. 332. Advanced Mathematics of Business.** (3:5:0)

☐**Stat. 336. Statistical Methods Used in Sciences I.** (3:3:0)

☐**Stat. 337. Statistical Methods Used in Sciences II.** (3:3:0)

350. Land and Range Economics. (3:3:0) F. (m) Prerequisite: Agr. Econ. 112 or consent of instructor. Infanger

Analysis of economic problems related to land use, evaluation, conservation, ownership, and land management.

360. Law and the Farmer. (2:2:0) S. Home Study also. (m)

A general study of the law of contracts, real and personal property, taxes, water, and estate planning, with specific applications to the problems of agriculture.

380. Agricultural Policy. (2:2:0) F. (m) Infanger

A study of the basic economic principles useful in evaluating farm policy, the agricultural setting, objectives of agricultural policy, and the means of achieving desired policy objectives.

☐**Econ. 389. Introduction to the Elements of Mathematical Economics.** (3:3:0)

410. Agricultural Marketing. (4:4:0) S. Home Study also. (m) Nelson

Economic principles and their application to the marketing of major agricultural products.

425. Farm Appraisal and Finance. (3:3:0) F. Home Study also. (m) Corbridge

Training in farm appraisal for purpose of purchase, finance, and taxing. An evaluation of the principal sources of farm finance.

490. Seminar. (1:1:0) F. (m)

☐**Econ. 412. Theory of Price.** (3:3:0)

525. Production Economics. (2:2:0) S. (m) Prerequisite: Econ. 302 or consent of instructor. Infanger

Principles concerning the optimum combination of productive resources within the farm firm and between firms.

☐**Stat. 531. Experimental Design.** (3:3:0)

580. Advanced Agricultural Policy. (2:2:0) S. (m) Prerequisite: Agr. Econ. 380.

The theoretical and institutional setting of the agricultural industry, the objectives of farm policy, and the means of achieving these objectives.

590. Seminar. (1:1:0) S. (m)

595. Individual Readings. (1-3:Arr.:Arr.) F.S.

597. Individual Research. (1-3:Arr.:Arr.)

☐**Econ. 612. Advanced Price Theory.** (3:3:0)

658. International Trade and Finance. (3:3:0)

Agricultural Education

Professor: Walker (coordinator, 106 HGB).

Students who wish to prepare for teaching agriculture should follow the curriculum outlined below. In addition, they should meet the requirements outlined under the General Education Program and also the requirements for teacher certification as outlined under the College of Education.

Students who wish to be certified for teaching vocational agriculture will find it necessary to complete certain courses in the methods of teaching vocational agriculture which are given only at land-grant colleges and state universities.

Curriculum in Agricultural Education

Agricultural Education (Composite major—62 credit hours)		
Plant Sciences		20 hours
Agron. 151, 282	8 hours	
Hort. 102, 103, 412, or 351 and 352	6 hours	
Electives—Agron. 302, 305, 308, 340, 351, 455; Hort. 140, 471; Bot. 462.	6 hours	
	20 hours	
Animal Sciences		15 hours
An. Sci. 153, 207	6 hours	
Electives (any animal science course)	9 hours	
	15 hours	
Agricultural Economics		11 hours
Agr. Econ. 112, 325, 410		
Farm Mechanics (select 16 hours from the following courses)		16 hours
Indus. Ed.		
125—Electrical Welding	2 hours	
188—Farm Machinery	3 hours	
189—Gas and Diesel Engines	3 hours	
210—Carpentry Framing	3 hours	
218—Plumbing	2 hours	
317—Masonry	2 hours	
341—House Wiring	2 hours	
Drawing 111	3 hours	
Total		62 hours

Courses

101. The Agricultural Industry. (1:1:0) F.S. Morris

The agricultural industry in the United States and other countries. Career opportunities and the role of education, research, and extension in agricultural development.

391. Junior Seminar. (1:1:0) F. Walker

401. Extension Work in Agriculture. (3:3:0) S. Walker

Extension work in agriculture, its development, objectives, organization, programming, leadership development, and methods of instruction with adults and boys and girls.

Agronomy and Horticulture

Professors: Allred, Farnsworth, Laws, Walker (chairman, 170 B).
Associate Professors: Ashton, Reimschussel.
Special Instructor: Woodward.

A student may elect to major in either agronomy or horticulture.

A minimum of twenty-four hours of course work and two hours of seminar (required of all seniors) is necessary for a major. No "D" credit in agronomy or horticulture may be counted toward the fulfillment of this requirement. A minimum of fourteen hours in a related field is required for a minor. The minor selected must have the approval of the department chairman.

A minimum of one year of inorganic chemistry and Chemistry 151 is required of all students majoring in agronomy. Students planning to pursue activities other than practical scientific farming should plan on additional chemistry. Transfer students majoring in this department, in addition to the above, are required to have at least sixteen credit hours in agronomy or horticulture from Brigham Young University. Transfer students who minor in this department are required to earn a minimum of seven hours in agronomy or horticulture at Brigham Young University.

Recommended four-year course outlines are available from the departmental advisers. The following is an example of the suggested course of study for the freshmen and sophomore years in agronomy.

A student may begin his preparation by selecting either Option A or Option B.

Students electing Option A may qualify for graduate study or technical positions in government civil service and in commercial agriculture or industry.

Students choosing Option B may qualify for less technical positions in government civil service and in commercial agriculture, industry, or for practical scientific farming.

Option A

Freshman Year	F	S
P.E.	½	½
Undergrad. Relig. 121, 122	2	2
Health 130		2
Engl. 111, 112	3	3
Math. 105*, 106	3	3
Bot. 101	3	
Chem. 105		4
Agron. 151	4	
Hort. 102		3
Total Hours	15½	17½

Sophomore Year	F	S
P.E.	½	½
Undergrad. relig.	2	2
Chem. 106, 223	4	5
Math. 112, 113	4	4
Agron. 282.	4	
Agr. Econ. 112	3	
Hist. 170		3
Micro. 121		3
Total Hours	17½	17½

*If a student has insufficient background in mathematics, he should take Math. 101 before registering for Math. 105.

Option B

Freshman Year

	F	S
P.E.	½	½
Undergrad. Relig. 121, 122	2	2
Engl. 111, 112	3	3
Health 130		2
Math. 105*	3	
Bot. 101 or Zool. 105	3	
Agron. 151	4	
Hort. 102		3
Chem. 101 or 105		4
An. Sci. 207		3
Total Hours	15½	17½

Sophomore Year

	F	S
P.E.	½	½
Undergrad. relig.	2	2
Hist. 170		3
Chem. 106 or 151	4-5	
Agron. 282	4	
Agr. Econ. 112	3	
Speech & Dram. Arts 121	3	
Geog. 231		3
Micro. 121		3
Stat. 221		3
Electives		3-4
Total Hours	16½-17½	17½-18½

*If a student has insufficient background in mathematics, he should register for Math. 101 before taking Math. 105.

Students planning for a graduate program (which greatly enhances opportunity for employment) should minor in botany, chemistry, mathematics or physics.

Students primarily interested in government civil service or commercial agriculture may minor in agricultural economics, animal science, botany, or chemistry.

Students with an opportunity to return to the farm may minor in agricultural economics, animal science, botany, or industrial education.

AGRONOMY

The purpose of the Department of Agronomy is to teach students, within the framework of the objectives of the University, the fundamental principles of soil science, field crop production, and their interrelationships. Graduates may prepare to pursue the following activities: (1) practical scientific farming, (2) graduate study toward the M.S. or Ph.D. degrees (opportunity in this area is unlimited), (3) government civil service (soil conservation, land management, etc.), (4) agronomist with commercial and industrial companies, and (5) agricultural education.

Courses

151. Principles of Field Crop Production. (4:3:2) F.S. (m) Allred

Crop production principles, soil-plant relationships, classification and distribution of farm crops, corn and small grain improvement, tillage, and crop rotation.

282. General Soils. (4:3:3) F.S. (m) Recommended: high school chemistry or one semester of college chemistry. Farnsworth, Walker

An introductory course dealing with the physical, chemical, and microbiological properties of soils.

302. Irrigation and Drainage. (3:2:3) S. (m) Prerequisites: Agron. 282, Math. 101 or 105. Farnsworth

Proper use of irrigation waters; irrigation water supply; water measurements; drainage in relation to the irrigation practices; drainage and alkali; drainage systems.

303. Soil Genesis, Classification, and Survey. (2:2:2) F. (m) Prerequisite: Agron. 282. Recommended: Geol. 111. Woodward

Influence of geologic forces and climatic environment on soil development; classification of soils based upon soil profile characteristics. Methods of soil survey are emphasized.

305. Soil Fertility. (4:3:3) F. (m) Prerequisites: Agron. 282, and one semester inorganic chemistry (101 or higher). Laws

Principles of soil fertility, commercial fertilizers, farm manures, green manures and crop rotations in crop production. Soil chemical analysis, soil testing and soil alkali.

308. Soil and Water Conservation. (2:2:0) F. (m) Home Study also. Farnsworth
History and status of soil erosion and soil fertility; effect of climatic factors, soil characteristics, vegetation, land management, and farm operations on soil and water conservation and on the maintenance of soil fertility and productivity.

340. Forage Crops. (3:2:2) F. (m) Recommended: Agron. 151. Allred
Distribution, characteristics, identification, and establishment of all major forages adapted to grasslands of the U.S.

351. Principles of Weed Control. (3:3:2) S. (m) Recommended: Agron. 151, 282. Allred
Cultural, chemical, and biological methods of weed control.

411. Soil Physics. (3:2:3) S. (m) Prerequisites: Agron. 282, Math. 101 or 105, one semester inorganic chemistry (101 or higher). Laws
Physical properties of soils and their effects upon air, water, and temperature in relation to soil management and crop production.

414. Soil Microbiology. (3:2:3) S. (m) Prerequisites: Micro. 121, Agron. 282. Farnsworth, Walker
Designed to acquaint the student with bacteria in relation to soil fertility; the activity and types of organisms in the rhizosphere; the biological processes in the soil.

453. Root, Oil and Specialized Crops. (3:3:0) F. (m) Prerequisites: Agron. 151, 282. Allred
Principles and special problems related to production of sugar beets, potatoes, oil crops and primary seed crops.

455. Pasture Management. (2:2:0) S. (m) Prerequisites: Agron. 151, 282. Recommended: Agron. 340. Laws
Establishment, fertilization and management of new pastures, development of pasture systems to provide maximum grazing for livestock.

457. Ecology of Weeds and Crops. (2:2:0) Su. (m) Allred
Field study of important grasses, legumes, other agronomic crops, and weeds; adaptation to soil, moisture, light, and other environmental conditions; growth characteristics, utilization, and control.

459. Plant Breeding. (2:2:0) S. (m) Prerequisites: Bot. 276, 376 or Zool. 276. Allred
Principles of breeding and selection, practices and methods of hybridization for development of improved varieties of crop plants.

460. Soil and Plant Analysis. (2:0:6) F. Prerequisites: Agron. 305, Chem. 223. Laws
Laboratory chemical analysis of soils and plant materials in soil fertility research.

491. Seminar. (1:1:0) F.S.Su. (m)
Current agronomic literature. Agricultural problems. Two semesters required of all senior students majoring in agronomy.

495. Field Projects. (2-3:0:4-6) F.S.Su.
Supervised field research and practical field problems.

497. Special Problems. (1-2:1-2:0) F.S.
Seniors specializing in agronomy elect research work from one to two hours during senior year.

498. Agricultural Literature and Agronomy Conference. (1-2:1-2:0) F.S.Su. Walker

605. Chemistry of Soil-Plant Relationships. (4:3:3) S. Laws

607. Soil Physical Conditions. (3:2:3) F. Laws

614. Advanced Soil Microbiology. (3:2:3) F. Farnsworth
Prerequisites: Agron. 305, Micro. 121, Chem. 223.

659. Advanced Plant Breeding. (2:2:0) S. Allred

694. Seminar. (1:1:0) F.S.Su.

697. Research. (Arr.) F.S.Su.

698. Agricultural Literature. (Arr.) F.S.Su.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

HORTICULTURE

The horticulture options offer training leading to a Bachelor of Science degree. A student may elect to study in one of the four following options:

1. Fruit and vegetable production.
2. Floriculture and greenhouse management.
3. Ornamental horticulture and nursery management.
4. Turf and park management.

A student electing to specialize in fruit and vegetable production should register in the following classes: Hort. 102, 140, 310, 351, 352, 412, and 471; Agronomy 282, 302, 305, 351, and 459; Chemistry 105, 106, and 151. A minor in botany is recommended by taking the following: Botany 101, 276, 440, 450, and 480.

A student electing to take training in floriculture and greenhouse management should register for the following: Hort. 102, 103, 112, 207, 318, and 471; Agronomy 282, 305, and 459; Chemistry 105, 106, and 151. A minor in botany is recommended by enrolling in Botany 101, 205, 276, 321, 440, and 480. If emphasis is placed in work in floral design, the following is suggested: Hort. 103, 112, 207, and 318; Art 110; Housing and Home Management 330, 380, 381, and as many courses as possible in business management and marketing.

A student electing to obtain training in ornamental horticulture and nursery management should take the following: Hort. 102, 103, 207, 317, 412, 430, and 471; Agronomy 282, 302, 305, 351, and 459. A recommended minor includes taking Botany 101, 105, 110, 440, and 480; or zoology with emphasis on insects and their control in ornamentals.

A student desiring a minor with emphasis in horticulture is required to take the following: Hort. 102, 103, 310, 352, 412, 471. A student majoring in recreation can receive a minor in horticulture with emphasis in park management. The following courses are required: Hort. 103, 317, 318, 319, 430, and 475; a total of 14 hours. Recommended courses are Hort. 102, Botany 205 and 440.

The student planning to do graduate work is advised to take additional courses in chemistry and mathematics, and one year of foreign language, preferably French or German.

Courses

102. Plant Propagation. (3:2:2) F.S. (m) Ashton
Introduction to propagation of plants by seeds, cuttings, budding, and grafting; with special emphasis on fruit and ornamental plants.

103. Beautifying the Home Grounds. (3:3:0) F.S. (m)
Principles of design and composition as applied to home ground development and related plant culture and maintenance.

112. Flower Arrangement. (2:1:2) F.S. Reimschüssel
Principles and methods of arranging flowers and other plant materials for decorative use in the home and for exhibition.

140. Vegetable Crops. (3:2:2) S. (m) Ashton
Selection, cultural practices, harvesting, storing, and marketing of vegetable crops.

207. Floriculture. (3:2:3) F. (Offered 1967 and alternate years) (m) Reimschüssel
Herbaceous plant culture in the greenhouse and out-of-doors.

310. Small-Fruit Production. (2:2:0) S. (Offered 1967 and alternate years) (m) Ashton
Methods of propagating, planting, growing, and handling grapes, strawberries, and other bush-type fruits for home and commercial plantings are considered.

317. Nursery Management. (2:1:2) S. (Offered 1968 and alternate years) Prerequisite: Hort. 102 or 103 or equivalent. Reimschüssel
Principles underlying the profitable management of a nursery: site, soil, culture, and handling of nursery stock, transplanting, propagation, and pest problems.

318. Greenhouse Management. (4:2:4) S. (Offered 1967 and alternate years) Prerequisite: Hort. 207 or equivalent. Reimschüssel
Principles underlying the management of a greenhouse; cultural practices and growing indoor plants emphasized.

319. Turf Management. (2:1:2) F. (Offered 1967 and alternate years) (m) Prerequisite: Hort. 207 or equivalent. Reimschüssel
The management of turf grasses as related to climate, soil and use on the golf course, park and private areas.

351, 352. Fruit Production I, II. (3:2:3) F.S. Prerequisite: Hort. 102. Ashton
Fundamentals of fruit production, including status of the industry, varieties, fruiting habits, cultural practices, pruning, spraying, harvesting, and storage. Emphasis will be given to the establishment and maintenance of deciduous orchards.

380. Fruit and Vegetable Processing. (4:2:6) F. Call
Methods and procedures in the commercial processing, preservation, and utilization of fruits, vegetables and related products. Sampling methods, quality control, and evaluation of the finished products will be emphasized.

412. Orchard Management. (2:1:3) S. (Offered 1968 and alternate years) Ashton
Recent developments in horticultural practices will be considered and special emphasis will be given to the establishment and management of commercial orchards.

430. Landscape and Planting Design. (3:0:6) F. (Offered 1967 and alternate years) (m) Prerequisite: Hort. 103. Recommended: drawing. Reimschüssel
Designs and plant combinations for private and public grounds using woody and herbaceous plants.

471. Pest Control in Orchards and Field Crops. (3:3:0) F. Prerequisites: Bot. 101. Recommended: Bot. 470 and Zool. 334. Ashton
Cultural, chemical, and biological methods, and machines used in control of pests and diseases of orchards and field crops.

475. Maintenance of Parks and Recreation Areas. (4:3:2) Prerequisite: Bot. 101 or Hort. 102 or 103. Reimschüssel
General maintenance of lawns, herbaceous and woody plants in a city is considered. (Recommended for those who minor in horticulture with emphasis in park planning and management.)

☐ **Botany 480. Plant Pathology.** (3:2:3)

491, 492. Seminar. (1:1:0 ea.) F.S.
For majors in senior year. Current literature in horticulture is reviewed.

495, 496. Special Problems in Horticulture. (1-3:Arr.:Arr. ea.) F.S. Prerequisite: consent of department chairman.

Animal Science

Professors: Shumway (chairman, 280 HGB), Cannon, Morris.

Associate Professors: Gardner, Hoopes, Hoskisson, Park, Wallentine.

Assistant Professor: Call.

Instructors: Mikkelsen, Pace.

The Department of Animal Science offers training for the following activities: (1) commercial and government agricultural positions, (2) preparation for study toward the M.S. and Ph.D. degrees, (3) agricultural teaching, (4) positions in meat, dairy, and food industries, (5) livestock managers, (6) practical livestock farming and operation, and (7) preveterinary preparation.

Two separate majors are offered in the Animal Science Department: (1) animal science and (2) food science and industries. Students taking their major in animal science will study sciences and practices pertaining to domestic animals. Those who major in food science and industries will be concerned primarily with the science and technology of food processing, preservation, marketing, and management of food-processing industries.

ANIMAL SCIENCE MAJOR

A minimum of 28 credit hours of course work in animal science is required for a major. The minor should be chosen from one of the following areas: agricultural economics, agronomy and horticulture, microbiology, botany (range management), business management, chemistry, computer science, economics, mathematics, statistics, and zoology and entomology. Petition to the department may be made to have other minors approved. Chemistry and lower-division courses should precede upper-division courses. One of the following curricula should be followed by animal science majors:

Industry

A. Required Courses:
  An. Sci.
    121, 153, 207, 311, 325 or 365, 492, 507 or 515
  Agri. Econ.
    112, 325 or 410
  Agron. & Hort.
    Hort. 102 or Agron. 151, and Agron. 282
  Chem.
    101, 151
  Bio. Sci.
    Micro. 121 or 321 or Bot. 101 or Zool. 105 or 213
  Math.
    101 or 105
B. Suggested Electives:
  An. Sci.—any listed course
  Agri. Econ.
    326, 350, 360
  Agri. Ed.
    101
  Agron. & Hort.
    Agron. 302, 305, 340, 455
    Hort. 102
  Bot.
    450, 462
  Zool.
    417

Science
(Preparation for Graduate Study)

A. Required Courses
  An. Sci.
    121, 153, 207, 311, 492, 507 or 515, 325 or 365
  Agri. Econ.
    112
  Agron. & Hort.
    Agron. 151 or Hort. 102, and

Agron. 282
Chem.
105, 106, 151
Bio. Sci.
Micro. 121 or 321, Zool. 213
Math.
105 and 106 or 111
Stat.
221

B. Suggested Electives:
An. Sci.—any listed course
Agri. Ed.
101
Agron. & Hort.
Agron. 305, 340, 455
Micro.
321, 322 or 331
Chem.
223, 384
Math.
109
Physics
201, 202
Zool.
370, 373, 376, 465

Transfer students majoring in animal science must earn at least 14 credit hours in their major field at Brigham Young University. Transfer students minoring in this department must earn at least 7 hours in animal science at Brigham Young University.

Preveterinary requirements are listed under the College of Biological and Agricultural Sciences in this catalog.

Suggested Courses—Animal Science Major

Freshman Year

	Industry (Hours)	**Science (Hours)**
Engl. 111, 112	6	6
Relig. 121, 122	4	4
Health 130	2	2
Math. 101 or 105	3	3
Chem. 101	4	
Chem. 105, 106		8
P.E.	1	1
An. Sci. 121	3	3
An. Sci. 153	3	3
Electives	6	3
Total hours	32	33

Sophomore Year

	Industry (Hours)	**Science (Hours)**
Undergrad. relig.	4	4
An. Sci. 207	3	3
An. sci. electives	3-6	3
Chem. 151	5	5
P.E.	1	1
Agron. or agr. econ.	4	4
Math. 106		3
Bio. sci.	6	6
Electives	4-7	5
Total hours	30-36	34

FOOD SCIENCE AND INDUSTRIES MAJOR

A minimum of 24 credit hours of course work in food science and industries is required for this major. The minor should be chosen from one of the following areas: animal science, microbiology, business management, chemistry, computer science, economics, physics. Petition to the department may be made to have other minors approved. Lower-division chemistry and other lower-division courses should precede upper-division courses. The following curriculum should be followed by food science and industries majors:

A. Required Courses:
Animal Science 121, 160, 225 or 325, 365, 460A,B, or C, 491
Agricultural Economics 112
Microbiology 121, 311, 361
Chemistry 105, 106, 151, 384, 385
Food and Nutrition 255
Mathematics 105 and 106, or 111, 109
Physics 201, 202

B. Suggested Electives:
Animal Science 328, 366, 367, 466, 468, 495, 525
Microbiology 371
Horticulture 380
Statistics 221

Suggested Courses—Food Science and Industries Major

Freshman Year

Course	Hours
Engl. 111, 112	6
Undergrad. Relig. 121, 122	4
Health 130	2
P.E.	1
Math. 105, 106 or 111	5 or 6
Chem. 105, 106	8
An. Sci. 121, 160	6
Total	32-33

Sophomore Year

Course	Hours
P.E.	1
Undergrad. relig.	4
Math. 109	3
Chem. 151	5
An. Sci. 225 or 325, 365	5 or 6
Food & Nutr. 255	5
Micro. 121	3
Electives	6
Total	32-33

Courses

121. Principles of Animal Production. (3:3:3) F.S.Su. (m) Shumway

Methods of management and production of animals and animal products.

153. Fundamentals of Animal Breeding. (3:3:0) F.S. (m) Park

Principles involved in breeding animals, including physiology of reproduction, heredity, variation, selection and systems of breeding.

160. Introduction to Food Science and Technology. (3:3:0) F. (m) Call

Food manufacturing and distribution around the world and some factors which have contributed to our modern food industry.

161. Elements of Dairying. (4:3:3) F. (m) Gardner

General principles of breeding, feeding, and management of dairy cattle.

162A,B. Dairy Production Laboratory. (1-2:2:3-6 ea.) F.S. (m) Prerequisite: completion of or concurrent registration in An. Sci. 161. Pace

Each student is required to feed, care, manage, and milk his own cows at the University laboratory area. Feeding, sanitation, and management are stressed.

207. Feeds and Feeding. (3:3:0) F.S.Su. (m) Gardner

Principles of nutrition and their application to all types of livestock.

208. Animal Fitting and Showing. (2:0:6) S. (m) Shumway

Demonstrations and discussions involving preparation of each type of livestock for show. Each student is assigned animals to fit and show at one of the spring shows and the campus livestock show.

221. Livestock and Meat Evaluation and Selection. (3:2:4) S. (m) Park
Wallentine

The classification, grading, evaluation, and selection of livestock, carcasses, and wholesale cuts. Field trips required.

☐**Statistics 221. Principles of Statistics.** (3:3:0) (m)

225. Meat Identification and Preparation. (2:1:3) F. Home Study also. Wallentine

A study of inspection, grading, identification, selection, processing, preparation and nutritive aspects of meat and poultry.

311. Animal Physiology and Anatomy. (4:3:2) F. (m) Prerequisite: Zool. 105 or equivalent. Hoopes

Applied study of the structure and functions of the animal body by systems.

312. Animal Hygiene. (4:3:3) S. (m) Prerequisite: An. Sci. 311; recommended: Bact. 121. Hoopes

Principles of animal sanitation in relation to disease prevention, with emphasis on the stockmen's approach to animal disease control.

321. Introduction to Research in Animal Science. (2:0:4) F.S.Su. (m)
Designed to acquaint students with current research projects, methods, design, techniques and procedures of research work in the animal sciences.

325. Meat and Meat Products. (3:2:3) F.S. (m) Wallentine
The marketing and care of meat from packer to consumer including inspection, processing, selection and freezing. Field trips are required.

328. Meat Processing Methods. (2:1:3) F.S. (m) Wallentine
A study of meat product quality as related to source, preparation and processing.

330. Horse Husbandry. (2:1:3) S. (m) Hoopes
A brief study of breeds of horses, with emphasis on feeding, management and selection.

335. Beef Cattle Production. (3:2:3) F. Home Study also. (m) Shumway
The application of nutrition, genetics, physiology, and management to the production of beef cattle.

☐**Statistics 336, 337. Statistical Methods Used in the Sciences.** (3:3:0 ea.)

340. Sheep Production. (2:1:3) S. (m) (Offered alternate years) Wallentine
The application of nutrition, genetics, physiology and management of range and farm sheep operations.

345. Swine Production. (2:1:3) S. (m) (Offered alternate years) Shumway
The application of nutrition, genetics, and physiology to the production of swine.

362A,B. Advanced Dairy Production Laboratory. (1-2:0:3-6) F.S. (m) Pace
Specific instruction and responsibility are given in modern milking methods, care and handling of milk, the pregnant cow, young calf, the fresh cow, the lactating cow.

365. Milk and Milk Processing. (3:2:2) F.S. (m) Home Study also. Call
Modern methods of processing and distribution of market milk and related products.

366. Ice Cream and Related Frozen Dairy Foods. (3:2:2) S.Su. Hoskisson
Selection and preparation of materials, processing, merchandising, and quality control.

367. Butter and Cheese Manufacture. (3:2:2) S.Su. Call
Scientific and technical aspects of manufacturing, packaging, marketing, and quality control of butter and cheese.

374. The Science of Poultry Production. (4:3:3) F. (m) Morris
Animal science as applied to present-day poultry husbandry. Special emphasis will be placed on feeding, management, environmental control and disease prevention.

378. Turkey Management. (2:0:4) S. (m) Morris
Principles, practices, and problems of turkey production, including brooding, feeding, growing and marketing.

421A,B,C,D. Special Problems in Animal and Animal Product Selection. (1:0:3) F. (m) Prerequisite: consent of instructor. Park, Wallentine

460A,B,C. Dairy Plant Management and Operation. (2:0:6) F.S.Su. (m) Prerequisites: An. Sci. 365, 366, 367; Micro. 371. Hoskisson
Practical experience in dairy manufacturing and plant operation.

462. Reproductive Physiology of Domestic Animals. (3:3:0) F. (m) Prerequisite: An. Sci. 153. Hoopes, Park
A study of the principles of reproductive physiology in farm animals and their application to modern livestock research and management.

464. Reproductive Physiology Laboratory. (1:0:2) F. (m) Prerequisite: An. Sci. 462 or consent of instructor. Hoopes

Techniques of artificial breeding of farm animals; methods of collection, analysis, and processing of semen and ova.

466. Dairy Chemistry. (3:2:3) F. (m) Call

Composition of milk and the changes induced by processing and manufacture of dairy products.

468. Analysis of Dairy Products. (3:1:6) S. (m) Call

Methods of analysis used in the processing and manufacture of dairy products and in grading and quality control.

491. Seminar. (1:1:0) F.S. Call

A critical review of current research and literature in food science.

492. Seminar. (2:2:0) F.S. Cannon

A critical review and analysis of current research, findings, and methods in animal agriculture.

495. Special Problems. (1-3:Arr.:Arr.) F.S. Call

Seniors specializing in food science and industries elect special research problems under the direction of advisers.

☐ **Statistics 501. Statistics for Research Workers.** (5:4:3)

☐ **Statistics 502. Statistics for Research Workers.** (5:4:3)

507. Animal Nutrition. (3:3:0) S. (m) Gardner

515. Advanced Animal Breeding. (3:3:0) S. (m) Park

525. Meat and Food Processing Plant Operations. (2-6:½-1½:10-30) F.S.Su. (m) Call, Wallentine

Prerequisite: An. Sci. 325, 328, Agr. Econ. 410 or equivalent.

☐**Statistics 531. Experimental Design.** (3:3:0) (m)

560. Advanced Dairy Production. (3:3:0) S. (m) Gardner

601. Experimental Animal Techniques. (2:2:0) F.S. (m)

660. Advanced Livestock Management. (2:1:3) S. (m)

691A,B,C,D. Animal Science Research. (1-2:0:3-6 ea.) F.S. (m)

692A,B,C. Seminar. (1:2:0) F.S. (m) Prerequisite: An. Sci. 492. Cannon

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su. (m)

Anthropology and Archaeology

Professors: Christensen, Jakeman.

Associate Professor: Myers (chairman, 150 M).

Assistant Professor: Matheny.

Anthropology studies living human groups as to their rituals and beliefs, systems of kinship and marriage, political institutions and law, products, languages, and other ways of life. The ultimate aim of these studies is the discovery of the common elements in the cultures of all societies, or in the regularities of human group behavior. It also investigates the variations of man as a biological species, both from the evidence of his physical remains and the evidence of the physical characteristics of living peoples. Anthropology is therefore both a social and biological science but has its main interest in the workings of culture and shares much of its theory and method with the social science of sociology.

Archaeology is the science which investigates the history of man from the evidence of his actual material remains—ruined buildings, broken implements and pottery, ancient art works, monuments and tablets bearing inscribed records, etc. By means of such evidence it is able not only to reconstruct much of the unwritten history of man but also to increase greatly our knowledge of the ancient periods of written history. In other words, it is an historical discipline—the companion discipline of documentary history, or the investigation of man's past exclusively from the evidence of written records. Like history, it is also one of the humanities as well as a social science in part of its work.

Although anthropology and archaeology each have important extraneous connections, the two disciplines are also closely related to each other. Not only does anthropology assist archaeology with data and concepts the latter needs for its cultural and historical interpretations of the remains of ancient peoples, but archaeology also assists anthropology by supplying the latter with much of the evidence it needs for its study of the cultural and racial variations of man. Consequently, the two disciplines are often taught in the same department, especially at American universities.

A basic understanding of the concepts, methods, and substantive knowledge of each of these two fields is required of every student who seeks to qualify for a baccalaureate degree in this department (see General Introductory Courses, below). Students majoring in the anthropology curriculum are awarded the Bachelor of Science degree upon the successful completion of the prescribed course of study; whereas the archaeology curriculum leads to the Bachelor of Arts degree. Anthropology majors may concentrate in ethnology, social anthropology, or linguistics; while the student who chooses the archaeology major may concentrate in the areas of historic archaeology (mainly biblical Near Eastern, classical, and early Christian) or prehistoric archaeology (mainly American).

General Introductory Courses

Every student majoring in this department is required to take each of the following courses, and it is to his advantage to have completed them by the end of his sophomore year: Anthropology 101, 105, and 120; Archaeology 200 and 250. These are not sequent courses, but it is recommended that Anthropology 101 and Archaeology 200 be taken first. For students not majoring in this department, either of these courses may be taken without prerequisites and in any order desired.

ANTHROPOLOGY

Professional qualification as an anthropologist requires graduate training, ideally to the Doctor of Philosophy degree. A student usually specializes in graduate school as an ethnologist, social anthropologist, linguist, or physical anthropologist, once he has obtained a broad knowledge of the discipline at the undergraduate level.

The undergraduate major in anthropology requires, in addition to the general introductory courses listed above, nineteen semester hours of anthropology courses which must include two courses selected from Anthropology 111, 317, 318, 319, 320, 330, 340, and 350; two courses selected from Anthropology 430, 431, 432, and 433; as well as two courses from Anthropology 480, 481, and 490. The remainder of the courses required for the major are to be selected in the student's field of special interest in consultation with his adviser.

The minor or collateral subject to accompany a major in anthropology, if the intended field of specialization is ethnology or social anthropology, should be archaeology, geography, political science, sociology, or psychology; if linguistics, it should be English or a foreign language.

In anthropological parlance the term ethnography refers to the descriptive accounts of the cultural and social life of peoples. All branches of anthropology make use of ethnographic data; yet each branch has its own theoretical and methodological interests and differs in the use made of such data. The ethnologist uses them to trace the migrations of peoples and to reconstruct culture history. The linguist employs ethnographic data in his study of the relationship between language and culture. They provide the physical anthropologist with material for study of the biological component in culture. The social anthropologist studies social process as this goes on in the here-and-now of contemporary societies, which involves the role of custom in marking out and maintaining the key relationships in the social structure. Ethnographic data are also of great value to students in archaeology, especially in the prehistoric division of that discipline. It is because of the general use made of ethnographic data that all anthropology majors are required to complete at least two courses in this area.

An undergraduate minor in anthropology requires the completion of sixteen semester hours in this subject, including Anthropology 101 and 105 and either 480 or 481. This subject makes a valuable minor to accompany a major in archaeology, a foreign language, geography, political science, psychology, or sociology.

Courses not offered one year are normally given the next.

Areas of Concentration

Ethnology. The basic concern of the ethnologist is the reconstruction of cultural history. This objective is accomplished through a process of "historical-upstreaming" wherein it is required to study the regional variations and distribution of cultural, linguistic, and racial groups and matters such as technology, invention, and diffusion. The ethnologist must have a wide comparative knowledge of the peoples and cultures of the world. Students concentrating in this area should select their courses from among the following: Anthropology 111, 317, 318, 319, 330, 340, 350, and 490.

Social Anthropology. The social anthropologist studies regularized or institutionalized human behavior as it occurs in the context of kinship, marriage, and family relationships; political actions and legal procedures; economic activities; and religious and cult affairs. He also studies the interrelationship of these activities in the total flow of social life. His interest embraces both contemporary societies and historical ones where adequate descriptive data are available. Through such studies he attempts to learn what is common and general in all human societies. So the student in this field should not only be grounded in theory and method, but also have a good foundation in the comparative ethnography of various peoples.

Anthropology majors wishing to concentrate in this field should select their courses from among the following: Anthropology 430, 431, 432, 433, 480, 481, and 490, and Sociology 552.

Linguistics. The interest of the anthropologist in the study of linguistics arises out of the nature of language as an element of culture. He studies the speech usages of a people or a community in an effort to ascertain the relationship between language on the one hand and matters such as technology, economics, political and legal procedures, ritual practices and social stratification on the other. In short, this field is concerned with symbolic processes in society. Anthropological linguists are also interested in the formal aspects of language structures and in the historical processes of variation and change in languages.

Anthropology majors wishing to concentrate in this field should select the following: Linguistics 325, 326, and 493; Anthropology 490.

Courses

101. General Ethnology. (3:3:0) F.S. Home Study also. (G-SS)
Berge, Christensen, Matheny, Myers
Race, culture, and environment; society and economy in relation to habitat; technology, invention, and diffusion; regional variations and distribution of cultural and linguistic groups.

105. Introduction to Social Anthropology. (3:3:0) F.S. (G-SS) Myers
Scope, concepts, and methods; cultural and universal needs; transmission and adaptations of culture; social organization in the family and wider society; beliefs, values, social control.

111. Cultures of the World. (3:2:2) S. Home Study also. (G-SS) Matheny
The variety of behavioral patterns seen through a study both of a sample of societies and of geographical distributions of cultural features.

120. Physical Anthropology. (2:2:0) F. Home Study also. Prerequisite: Bot. 101, Zool. 105, or consent of instructor. Matheny
Human biology as a factor in explaining behavior differences, with emphasis on evolution and genetics.

317. Native Peoples of North America. (2:2:0) F. Matheny, Myers
A survey of the Indian and Eskimo peoples of the United States and Canada at European contact; their adaptation to environment, social organization, beliefs, and values.

318. Native Peoples of Middle America. (2:2:0) S. Jakeman
A survey of the Indian peoples of Mexico, Central America, and the West Indies at European contact, with special attention to those of Mesoamerica.

319. Native Peoples of South America. (2:2:0) S. Christensen
A survey of the Indian peoples of South America at European contact, with special attention to those of the Central Andean region.

320. The North American Indian Today. (2:2:0) F. Myers
Conditions among and problems confronting the major Indian groups of North America at the present day.

☐**Linguistics 325. Introduction to Descriptive Linguistics.** (3:3:0)

☐**Linguistics 326. An Introduction to Historical and Comparative Linguistics.** (3:3:0)

330. Peoples of Africa. (3:3:0) S. Myers
A survey of the peoples of Africa south of the Sahara; their adaptation to environment, social organization, beliefs, and values.

340. Peoples of the Middle East. (3:3:0) F. Matheny
A survey of the peoples of the Middle East with emphasis on social systems. Includes the nomads and settled agriculturists as well as urban peoples.

350. Peoples of South and East Asia. (3:3:0) S. Matheny
A survey of the peoples of south and east Asia, with emphasis on cultural traditions. Includes social organization, beliefs, and values.

430. Moral and Ritual Institutions. (3:3:0) F. Myers
Religion, magic, witchcraft, sorcery, mythology, cosmology, totemism; morality in the simpler societies in relation to ritual and belief; comparative religion.

431. Systems of Kinship and Marriage. (3:3:0) F. Myers
Types of kinship and marriage systems in various societies; their relationship to political, legal, economic, and ritual institutions.

432. Political and Legal Institutions—Primitive Peoples. (3:3:0) S. Myers
Stateless societies and the evolution of the state; kingship, chiefship, and achieved leadership; councils; warfare; law, custom, and public and private wrongs; sanctions; judicial institutions.

433. Economic Institutions. (3:3:0) S. Myers
Organization of production, consumption, and exchange, and their relation to other structured activities in nonindustrial societies; wealth, capital, labor, land tenure, and property.

480. Theoretical Social Anthropology. (3:3:0) F. Myers
The development of scientific social anthropology since 1850, with emphasis on modern trends in theory.

481. Field Methods in Social Anthropology. (2:2:1) S. Myers
The interrelationship between field methods and theory; the development of field techniques; field excursion.

490A,B,C,D. Seminar. (2:2:0) F.S. Prerequisites: Anthop. 101, 105, 120.
Berge, Matheny, Myers
Examination of topical areas in anthropology. Each student writes a paper in an area assigned by the instructor, which is then presented and discussed by the class.

☐**Linguistics 493. Readings in Linguistics.** (1-3:0:Arr.)

☐**Sociology 552. Personality: Culture and Society.** (3:3:0)

ARCHAEOLOGY

Instruction is offered in this department in both the main divisions of archaeology, i.e., the prehistoric, or that of the unwritten periods of human history (culture-centered archaeology), and the historic, which has as its purpose the checking, adding to, clarification, and supplementation of the written records of history (text-centered archaeology, such as biblical and classical).

Attention is also given to the methods of archaeological research, and provision is made for practical in-service training in field and laboratory procedures. Undergraduate students may participate in excavations at sites in central or southeastern Utah, while graduate students may sometimes accompany University expeditions to southern Utah, Mexico, or Central America.

The undergraduate major in archaeology requires, in addition to the general introductory courses listed above, Archaeology 310 and 350 and thirteen additional semester hours of archaeology courses.

The minor or collateral subject to accompany this major, if the intended area of specialization is prehistoric archaeology, should be anthropology, with courses also in historical geology; but if in historic archaeology, it should be history, art, or an ancient language.

An undergraduate minor in archaeology requires the completion of sixteen semester hours in this subject, including courses 200 and 250. This subject makes a valuable minor to accompany a major in anthropology (with specialization in ethnology), history (with specialization in ancient history), art (with specialization in art history), or one of the ancient languages; as well as a valuable accompaniment of studies in the Hebrew-Christian and Latter-day Saint scriptures.

Courses not offered one year are normally given the next year.

Areas of Concentration

Historic Archaeology. This is mainly text-centered but also text-aided archaeology, and the student deciding to specialize in this division of the science should plan to be an historian (particularly a student of ancient history) as well as an archaeologist.

Archaeology majors wishing to concentrate in this division should include among their upper-division courses the following: History 300, Archaeology 310, 318, 350, 355, 451, and 471.

The minor accompanying a major in this branch of archaeology should be history. Art or an ancient language may also be used as a minor with permission of the student's adviser.

Prehistoric Archaeology. This is mainly culture-centered archaeology, and the student deciding to specialize in this division of the science should plan to be an anthropologist (particularly an ethnologist) as well as an archaeologist.

Archaeology majors wishing to concentrate in this division should include among their upper-division courses the following: Archaeology 327, 355, 365, 375, 451, and 471.

The minor accompanying a major in prehistoric archaeology should be anthropology, with concentration on the ethnology division of that discipline supplemented by courses in geography and historical geology.

Graduate Studies in Archaeology

The graduate major and minor in archaeology are also offered. The graduate major, leading to the Master of Arts degree, further prepares the student for teaching and research. The best preparation for a professional career in this field is, of course, the Doctor of Philosophy degree. If specialization is to be in historic archaeology, the Ph.D. degree should be in history, or in anthropology if specialization is to be in prehistoric archaeology.

For the master's degree in archaeology at least fifteen semester hours of graduate credit are required in this subject, and at least nine additional semester hours in a minor field approved by the department, as well as an acceptable thesis. (For further information on the requirements for the master's degree in archaeology, see the catalog of the Graduate School.)

Courses not offered one year are normally given the next year.

Courses

200. Introduction to Archaeology. (3:3:0) F.S. (G-SS)
Berge, Christensen, Jakeman

The aims, methods, main fields, and major excavations and discoveries of archaeology; and a survey of the antiquities and ancient arts of both hemispheres.

250. World Archaeological History. (4:3:2) S. (G-SS) Berge, Jakeman

The early history of man in both hemispheres, as revealed mainly by archaeology, with special attention to the rise of civilization, and to ancient technology.

☐**History 300. Early Oriental History.** (2:2:0)

310. Historic Near-Eastern and Biblical Archaeology. (3:3:0) F. Christensen, Jakeman

The antiquities of the Near East (Egypt and western Asia), the ancient history and civilizations of that area, and the historical narratives of the Bible.

318. Classical and Christian Archaeology. (2:2:0) S. Jakeman

The major excavations, monuments, and art works of the Mediterranean region, checking, adding to, and illustrating ancient Graeco-Roman and early Christian history.

327. Prehistoric Archaeology of the Old World. (2:2:0) S. Christensen, Matheny

The early culture-history of the eastern hemisphere, with special attention to the development of the prehistoric civilizations of the Copper, Bronze, and Iron ages.

350. Early History of Middle America. (3:3:0) F. Christensen, Jakeman

An introduction to the pre-Spanish history of Mexico and Central America, as recorded in the Indian and Spanish chronicles, with a preliminary archaeological checking of these writings.

355. Archaeology of Middle America. (2:2:0) S. Jakeman, Matheny

A study in the archaeological history of Mexico and Central America, and a comparison with the early chronicled history studied in course 350.

365. Archaeology of South America. (2:2:0) S. Christensen

The results of archaeological research in South America, especially Peru, and a comparison of this with the early chronicled history of the latter area.

375. Archaeology of North America. (2:2:0) S. Christensen, Matheny

Results of archaeological research in North America north of central Mexico, especially as to the later prehistory of eastern United States and the Southwest.

451. Methods of Archaeological Research: General and Field. (4:0-2:4-8) F. Christensen, Matheny

Training in field and laboratory procedures, including student participation in the excavation of a site in Utah Valley and in processing the excavated materials.

471. Methods of Archaeological Research: Interpretative. (2:0-2:0-4) S. Christensen, Jakeman, Matheny

Laboratory analysis of archaeological materials, and methods of cultural, chronological, and historical interpretation.

500. History and Theory of Archaeology. (2:2:0) F. Christensen, Jakeman

The development of archaeology as a scientific discipline and the theoretical foundations upon which it rests.

541. Museum Studies. (1-4:1:2-6) F. Matheny

590. Seminar. (2:2:0) S.

Practice in the critical evaluation of archaeological writings. Each student writes a paper in an area of his choice, which is then presented and discussed in class.

594. Readings in Archaeology. (1-3:0:0) F.S.Su.

611. Introduction to the Mesopotamian Inscriptions. (2:2:0) F. Jakeman

The ancient writings of Mesopotamia, pictographic and cuneiform; their decipherment, history of development, and study in the light of and for light on other archaeological findings. (For courses in the actual reading of Mesopotamian inscriptions see Semitic Languages 793 and 794, Akkadian.)

631. Introduction to Mesoamerican Hieroglyphics and Iconography. (2:2:0) F. Jakeman

The religious art and writings of ancient Mexico and Central America; their partial decipherment and their study in the light of and for light on other archaeological findings.

651. Advanced Field Methods of Archaeology. (5:0:15) F.S.Su.

Further in-service training in field methods as a member of a University archaeological expedition to southern Utah, Mexico, or Central America.

671. Advanced Interpretative Methods. (2:2:2) F.S.

Methods of quantitative handling of archaeological data, such as statistical and computer analysis; new techniques of absolute dating with the aid of physics and chemistry.

695. Library Research in Near Eastern and Biblical Archaeology. (2:0:6) F.S.Su.

Independent library research in Mesopotamian, Egyptian, Palestinian, Old Testament, or other Near Eastern or biblical archaeology.

696. Library Research in Middle American-Andean Archaeology. (2:0:6) F.S.Su.

Independent library research in Mesoamerican or Peruvian archaeological and chronicled history, Mesoamerican hieroglyphic decipherment, or the origins of the Middle American-Andean civilizations.

697. Field Research. (5-10:0:15-30) F.S.Su.

Individual field research in western United States, Middle America, Peru, or the Near East.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

Iroquois medicine dancers in ritual regalia emerge from cook house

Art

Professors:	Andrus, de Jong (emeritus), Gunn, Larsen (emeritus), Mathews, Turner (chairman, C502-B HFAC).
Associate Professors:	Darais, Magleby, Weaver, Wilson.
Assistant Professors:	Breinholt, Burnside, Johansen, Tippetts.
Instructors:	Anderson, Fletcher, Raty, Takasaki.
Special Instructors:	Forster, Luch, Taylor.

The new Harris Fine Arts Center houses the Art Department. The B. F. Larsen Gallery, Elbert H. Eastman Special Collections Room, and a new department gallery provide historical and current displays of art. A student body of over 400 art majors are guided by a faculty trained in universities and schools from coast to coast and abroad. The serious student planning a career in art may select from nine fields of concentration. Programs for the general education student are also available.

The Art Department offers programs in the following fields:

Art Education
Art Crafts
Art History
Ceramics
Commercial Design
Interior Design
Painting
Printmaking
Sculpture and Foundation Courses
Service Courses for nonart majors

Four degrees are available for art majors:

Bachelor of Arts
Bachelor of Fine Arts
Master of Arts
Master of Fine Arts

(Graduate degrees are detailed in the Graduate Catalog.)

A liberal arts degree is offered to students completing the University's general education requirements. The student's minor requirements may be met with a 14-hour minor in another department or a 14-hour minor in art history which must include an additional six hours in history, archaeology, or anthropology.

The Art Department requirements are as follows:

Fundamentals—Art 120, 121, 122.
Graphic Core—At least 6 hours from Art 227, 233, 239, 250.
Plastic Core—At least 4 hours from Art 256, 259, 263.
Art History—Art 301 and at least 4 additional hours of art history.
Art Electives—At least 14 hours. (Additional work is urged.)

Art History Major

A student desiring an emphasis in art history is expected to complete the plastic, graphic, and fundamental requirements for the B.A. degree. The program is completed with 21 hours of art history electives. The art history major must select a minor outside the department, preferably in history, archaeology, or anthropology.

Bachelor of Fine Arts

A degree with emphasis on performance is offered to students who apply after successfully completing Art 120, 121, and who qualify with a faculty evaluation of their work. Senior Bachelor of Arts students are required to complete a terminal project which may be retained by the department.

The Bachelor of Arts student must meet the following general education requirements: English, 6 hours; P.E., 2 hours; Health 130, 2 hours; social science, 3 hours; biological science, 3 hours; physical science, 3 hours; History 170, humanities, 6 hours, including 2 hours of literature; and a minor of 14 hours in another department (or a 14-hour art history minor which must include an additional six hours of archaeology, anthropology, or history).

Art Core Requirements—Art 120, 121, 122, 227, 233, 239, 250, 256, 259, 263, 301, and four additional hours of art history. Art 120, 121, and 122 must be taken in sequence. Other core classes may be taken in any sequence.

One of the following should be selected for an area of concentration. The sequence of courses is suggested:

Commercial Art—Art 310, 321, 322, 333, 341 (illustration students should continue with 342, 343; advertising and design students should continue with Communications 367 and 368), a class in photography, Art 444, 449A,B,C, 595, and 11 hours of electives.

Interior Design—Art 308, 309, 310, 314, 315, 318, 320, 333, 406, 408, 410B,C, 418A,B,C, Business Management 347, Psychology 111, 360, Clothing and Textiles 260, Housing and Home Management 220, Drafting 111, 256.

Painting—Art 310, 321, 322, 327, 333, 421, 427, 433, 476, 580, 595, and 16 hours of electives.

Printmaking—Art 310, 321, 333 or 327, 350, 352, 322, 450A, 450B, 450C, 476, 595, and 12 hours of electives.

Sculpture—Art 310, 322, 356, 456A, 456B, 456C, 501, and 23 hours of electives.

Ceramics—Art 310, 321, 359, 459A, 459B, 459C, 501, 595, and 24 hours of electives.

Crafts—Art 310, 321, 359, 362, 366, 463A, 463B, 463C, 595, and 22 hours of electives.

Art Minor

Students electing an art minor (nonteaching) must complete 14 hours in art with at least four hours of upper-division work. Art 120 and 121 must be completed in the lower division.

Art Education

Prospective art teachers are majors in the Art Department under the College of Fine Arts and Communications, but to coordinate with the Teacher Education program, all departments list their departmental offerings with the College of Education. Details for credentials and Art Department requirements are, therefore, listed in the Teacher Education Department.

Students who intend to teach on the secondary level may fill an art major designed for teachers and support this with a teaching minor in another department. A composite teaching major in art is also offered. The three areas from which the dominant and two supporting fields may be chosen are (1) crafts and sculpture, (2) drawing and painting, (3) commercial art and interior design. A teaching minor in art is also offered.

The sequence of education courses begins with Teacher Education 301 in the second semester of the sophomore year. For details on these programs and for sequence of courses in education, see Preparation of Secondary School Teachers in the Teacher Education Section of this catalog.

Art education students may participate in the BFA program, but they should expect the heavier total credit-hour load.

University Minor for Art Majors

Art majors are required to take at least fourteen hours in collateral or minor subjects selected from courses approved for this purpose by the department or departments offering these courses and approved by the chairman of the student's major department. Art Education students who elect a composite teaching major are not required to have a University minor. However, should the student decide to complete his bachelor's degree before taking out his credentials, the composite teaching major will not meet the University minor requirements.

Courses Repeated for Credit

Courses which have A,B,C,D following the number may be repeated for credit. They are designed to offer a block of time for concentrated study toward maturity in one of the graduate art fields: (1) painting and sculpture, (2) design. A course of study outline must be prepared by the graduate student and his faculty adviser and must include enough core breadth.

Courses

101. Introduction to Art. (2:2:0) F.S. (G-HA) Turner
A survey of art appreciation. Introduction to basic understanding in art with emphasis on art processes through lectures, demonstrations, and studio and gallery visits (not for art majors).

108. General Art. (2:2:2) F.S.Su. (G-HA)
Introduction to appreciation and creative expression. Lectures, demonstrations, and exploratory experiences in painting, lettering, crafts, printmaking, and modeling. Offered to meet the needs of students filling general education requirements who wish to participate in art activities (not for art majors).

110. Design in Everyday Life. (2:3:0) F.S. Home Study also. (G-HA)
A study of good taste and sensitivity to design in contemporary life (not for art majors).

120. Basic Design. (3:3:3) F.S.Su. Home Study also. (m) Darais, Wilson
Foundation course in theory and application of design.

121. Basic Drawing. (3:6:0) F.S. Home Study also. (m) Prerequisite: Art 120 (may be taken concurrently). Breinholt, Burnside, Darais, Fletcher, Forster, Johansen, Takasaki
The principles of art as applied to drawing. Work in perspective, representation, and individual interpretation and expression.

122. Basic Figure Drawing. (3:6:0) F.S. (m) Prerequisites: Art 120, 121. Darais, Gunn, Johansen, Magleby
Drawing from the model. Experience with the elements of graphic expression.

226. Art for Elementary Teachers. (3:3:0) F.S.Su. Home Study also. Breinholt, Fletcher, Gunn, Magleby, Raty, Weaver, Wilson
Role of art in public schools; basic art education theory, including levels of artistic growth, classroom activities and aesthetic experiences for teacher growth. Art 110 will not be accepted for credit with Art 226.

227. Design in Oil Painting. (2:4:0) F.S.Su. (m) Andrus, Breinholt, Fletcher, Forster, Magleby, Turner
Oil colors as a design medium. Emphasis on expressive use of oil paints.

233. Design in Watercolor Painting. (2:4:0) F.S.Su. (m) Burnside, Turner
Survey and application of various techniques of watercolor painting.

239. Design in Layout and Lettering. (2:4:0) F.S. Home Study also. (m) Luch
Basic skills in lettering and designing for commercial purposes.

250. Design in Printmaking. (2:4:0) F.S.Su. (m) Andrus, Weaver
Introduction to fine printmaking as a medium of design including the relief, intaglio, planographic, and stencil processes.

256. Design in Sculpture. (2:4:0) F.S.Su. Prerequisites: Art 120, 121, 122. Johansen
Introduction to the basic problems in three-dimensional design. Emphasis on the processes of clay construction in relationship to the human head and figure.

259. Design in Ceramics. (2:4:0) F.S.Su. (m) Weaver, Wilson
Familiarization with pottery materials and methods emphasizing a design approach. The production of functional and expressive fired clay objects.

263. Design in Crafts. (2:4:0) F.S.Su. (m) Johansen, Weaver
Creative design in metal, wood, leather, mosaic, textile, and other media.

301. Art History and Appreciation. (3:3:0) F.S. Home Study also. (G-HA m) Gunn, Mathews
A survey of the art of the Western world covering the various periods including the contemporary styles in the 19th and 20th centuries.

302. Oriental Art and Appreciation. (2:2:0) F. Burnside, Takasaki
A survey of the major periods and dynasties of the Orient from ancient to modern times.

308. American Art. (2:2:0) F. (G-HA m) Burnside, Fletcher
A survey of American painting, architecture, and sculpture from the 17th century to the present.

309. History of Architecture. (2:2:0) F.S. Burnside, Mathews
A survey of the great monuments of architecture from the Egyptian period to present time.

310. Advanced Design. (2:4:0) F.S. Prerequisites: Art 120, 121, 122, 227, 233, 239, 250, 256, 259, 263. Darais, Magleby
Emphasis on art structure as essential to self-expression. Study of significant examples from art history.

312. Product Design. (2:2:2) F.S. Prerequisites: Art 120, 121, 122, 227, 239, 250, 263. Magleby
Planning and making packages, models, or mock-ups. Emphasis on visual appeal.

315. A History of Interior Furnishings. (2:2:0) F.S.Su.
An historical review of interior furnishings and trends in their development. (Continued in Art 316.)

316. Contemporary Interior Furnishings. (2:2:0) F.S.Su.
An historical review of interior furnishings since 1900. (A continuation of Art 315.)

317. Introduction to Interior Design Problems and Presentations. (2:4:0) F.S. Prerequisites: Art 310, Drafting 111, 256.
General principles of interior design and methods of presentation.

320. Fundamentals of Environmental Design. (3:6:0) F.S.Su.
Problems in three-dimensional composition as it relates to a consideration of space in environmental, structural, and functional forms.

321. Interpretive Drawing. (2:4:0) F.S. Prerequisites: Art 120, 121, 122. Darais, Johansen
Drawing as a graphic form of self-expression. Emphasis on the personal statement in response to various experiences and motifs. Examples from history included.

322. Advanced Figure Drawing. (2:4:0) F.S.Su. Prerequisites: Art 120, 121, 122. Andrus, Gunn, Johansen, Magleby

Advanced work in drawing the human figure with emphasis on structure and individuality of expression.

327. Landscape and Still Life Painting. (2:4:0) F.S. (m) Prerequisites: Art 120, 121, 122, 227. Magleby, Turner

Oil painting from landscapes and still life objects with emphasis on developing the individual expressive capacity of the student.

333. Watercolor Painting. (2:4:0) F.S.Su. (m) Prerequisites: Art 121, 122, 233. Forster, Turner

Development of basic skills in watercolor paintings from landscape and still life objects. Experience in the use of transparent watercolors emphasized.

341. Layout. (3:3:0) F. (m) Prerequisites: Art 120, 121, 122, 239. Luch

Creation of the idea and organization of visual elements for commercial design.

342. Illustration. (2:3:0) S. Prerequisites: Art 120, 121, 122. Gunn

Introduction to editorial and advertising illustration, exploration of tools and media, visualization of the idea, approaches to rendering.

343. Fashion Illustration. (2:3:0) Home Study also. F. Prerequisites: Art 120, 121, 122. Gunn

Introduction to fashion illustration. The gesture proportion, and effective linear expression of the fashion figure; approaches to rendering apparel and the development of individual style.

344. Commercial Art Techniques. (2:2:2) F. Prerequisite: Art. 239. Luch

A survey of standard and experimental procedures utilized in the production of commercial art.

350. Printmaking Workshop. (2:4:0) F.Su. (m) Prerequisites: Art 120, 121, 122, 250. Andrus

Relief and intaglio fine printmaking based on traditional and contemporary concepts, materials, and procedures.

352. Printmaking Workshop. (2:4:0) S. (m) Prerequisites: Art 121, 122, 250. Andrus

Lithography and silk screen based on traditional and contemporary concepts, materials, and procedures.

356. Sculpture. (2:4:0) F.S.Su. (m) Prerequisites: Art 120, 121, 122, 256. Johansen

Methods of creating expressive sculptural forms with emphasis on direct processes of carving.

359. Ceramics. (2:4:0) F.S.Su. (m) Weaver, Wilson

Basic methods of creating functional and expressive objects from clay. Forming processes from constructing and throwing through decorating and glazing to the final fired product.

362. Textile Crafts. (2:4:0) F.S. (m) Prerequisites: Art 120, 121, 122, 263. Weaver

Silk screen, block printing, stenciling, painting, and dyeing as media for textile design.

366. Metal Crafts and Jewelry Design. (2:4:0) F.S.Su. (m) Prerequisites: Art 120, 121, 122, 263 (nonart majors, 263 only). Weaver

Creative design of copper, silver, aluminum, and other media used in etching, enameling, forming and modeling, soldering, silver casting, lapidary, etc.

☐**Communications 367. Portrait Photography.** (2:1:3)

☐**Communications 368. Pictorial Photography.** (2:4:0)

377. Basic Classroom Procedures. (3:3:0) F. Prerequisite: Tchr. Ed. 301. Breinholt

403. Ancient and Primitive Art. (2:2:0) F. (G-HA m) Mathews
The history of ancient art including Egypt, Mesopotamia, and Greece. Primitive cultures include African Negro, Pacific Islands, American Indian, and Pre-Columbian.

405. Medieval Art. (2:2:0) S.Su. (G-HA m) Burnside
A study of the major medieval monuments in architecture, sculpture, and painting from the early Christian period through the Romanesque and Gothic periods.

406. Renaissance Art. (2:2:0) S. Burnside, Fletcher
A study of the major artists, monuments, and influences of the Renaissance.

407. 19th-Century European Art. (2:2:0) F. Fletcher, Mathews
History and appreciation of 19th-century art in Europe and America.

408. Contemporary Art. (2:2:0) Home Study also. S.Su. Fletcher, Mathews
The rise and progress of contemporary art in Europe and America.

410A,B,C. Design Studio. (3:1:5 ea.) F.S.Su. Prerequisite: Art 310. Darais
Advanced design probems in various media.

414. Baroque Art. (2:2:0) S.Su. Prerequisite: Art 301.
History and appreciation of baroque painting, sculpture, and architecture.

418A,B,C. Interior Design Studio. (3:Arr.:Arr. ea.) F.S.Su. Prerequisite: Art 317. Knell
Specific interior design problems. (May be repeated for credit.)

421A,B,C. Drawing Studio. (3:1:5 ea.) F.S.Su. Prerequisite: Art 321 or 322. Johansen
Development of individual expressive strengths. (May be repeated for credit: B, C.)

425. Professional Practices in Interior Design. (2:2:0) F.S.
Consideration of business and ethical problems as they relate to practices in interior design.

427A,B,C. Oil Painting Studio. (3:1:5 ea.) F.S.Su. Prerequisite: Art 327. Turner
Advanced work in painting. (May be repeated for credit: B, C.)

433A,B,C. Watercolor Studio. (3:1:5 ea.) F.S.Su. Prerequisite: Art 333. Turner
Advanced work in watercolor theory and practice. Opportunities for projects in various aqueous media. (May be repeated for credit: B, C.)

444. Portfolio Preparation. (2:2:2) F.S. Prerequisites: Art 122, 239, 341, 342. Gunn, Luch
An analysis of individual strengths and weaknesses. Specialization opportunities provided in various areas of commercial design and display. Preparation of portfolio emphasized.

449A,B,C. Commercial Art Studio. (3:1:5 ea.) F.S.Su. Prerequisites: Art 341, 342; Commun. 250. Gunn, Luch
An extension of the individual's specific interests and needs as applied to practical problems in the field of commercial art. (May be repeated for credit: B,C.)

450A,B,C. Printmaking Studio. (3:1:5 ea.) F.S.Su. Prerequisite: Art 350 or 352. Andrus
Advanced specialization in significant sculptural form. Specialized investigations into media, deeper reading, and the development of a preprofessional style are expected.

456A,B,C. Sculpture Studio. (3:1:5 ea.) F.S.Su. Prerequisite: Art 356. Anderson, Johansen

A—Emphasis on the lost wax process and technique of metal constructions.

B, C—Advanced specialization in significant sculptural form.

458A,B,C. Sculpture Studio. (3:1:5 ea.) F.S.Su. Prerequisite: Art 456. Anderson, Johansen

Advanced specialization in significant sculptural form. Orientation toward practical problems.

459A,B,C. Ceramics Studio. (3:1:5 ea.) F.S.Su. Prerequisite: Art 359. Weaver, Wilson

Studio experiences for advanced ceramics students. Emphasis on experimental and exploratory research concerned with clay bodies and glazes from local resources. Development of more personally expressive methods of producing pottery forms.

463A,B,C. Crafts Studio. (3:1:5 ea.) F.S.Su. Prerequisite: Art 263. Weaver

Advanced exploratory problems in design involving craft materials of various kinds. (May be repeated for credit: B, C.)

476A,B,C. Portrait and Figure Painting. (3:Arr.:Arr. ea.) F.S.Su. Prerequisites: Art 120, 121, 122, 227. Andrus

Oil painting from the model with emphasis on design and the development of an expressive style.

479. Secondary Student Teaching. (8:0:0) F.S. Prerequisite: Art 377. Breinholt

498. Readings (Honors). (2:TBA) F.S.Su. Andrus

499. Readings. (2:TBA) F.S.

Selections from the great literature in art.

501. Philosophy of the Fine Arts. (2:2:0) F.S.Su. Recommended: Philosophy 385 and any of the art appreciation classes or Humanities 101.

Conducted primarily for fine arts majors; art, music, theater, poetry, and dance. The art areas and their creation, style, form, mode, etc., will be discussed in lecture, but mainly seminar. The content will be organized around the particular art areas and their respective cultural settings, rather than on the historical records.

568A,B,C. Art Education Studio. (3:1:5 ea.) F.S.Su. Breinholt, Gunn, Raty, Weaver

Curricula and projects in art education. (May be repeated for credit: B, C.)

580. Mural Design. (2:2:2) F. Prerequisites: Art 227, 310, 321 or 322. Magleby

Historical backgrounds, studio work in design and execution of murals.

582. Mural Painting. (2:1:3) F.S.Su. Prerequisite: Art 580. Magleby

Historical backgrounds, design, and execution of murals. (May be repeated for credit.)

595. Seminar. (1:0:2) F.S.

Student and faculty analysis of curricula relationships, projection of student objectives, contemporary topics and visits to current exhibits.

615. Period Furnishings and Other Decorative Material for Interior Design. (2:2:2) F.

617A,B,C,D. Practical Problems in Interior Design. (4:4:4 ea.) Prerequisite: Art 615.

621. Advanced Drawing and Painting. (2:2:2) F. Andrus

622A,B,C,D. Advanced Figure Drawing. (4:4:4 ea.) Prerequisite: Art 621. Andrus

624. Advanced Landscape Painting. (2:2:2) F. **Turner**

625. Advanced Still Life Painting. (2:2:2) S. Turner

626A,B,C,D. Advanced Painting. (4:4:4 ea.) Prerequisite: Art 621 or 624 or 625 or 674 or 676.

627. Pictorial Composition. (2:2:2) F. Darais, Turner

629A,B,C,D. Advanced Design. (4:4:4 ea.) Prerequisite: Art 310. Darais

633. Advanced Watercolor Painting. (2:2:2) F. Turner

635A,B,C,D. Advanced Watercolor. (4:4:4 ea.) Prerequisite: Art 633. Turner

639. Advanced Layout. (2:2:2) F. Gunn

642. Advanced Illustration. (2:2:2) S. Gunn

647A,B,C,D. Advanced Commercial Art. (4:4:4 ea.) Prerequisite: Art 639. Gunn

650. Advanced Relief and Intaglio Printmaking. (2:2:2) F. Andrus

652. Serigraphy and Color Lithography. (2:2:2) S. Andrus

653A,B,C,D. Advanced Printmaking. (4:4:4 ea.) Prerequisite: Art 650. Andrus

656. Advanced Sculpture. (2:2:2) F. Johansen

658A,B,C,D. Advanced Sculpture. (4:4:4 ea.) Prerequisite: Art 656. Johansen

664. Advanced Ceramics. (2:2:2) F.S. Wilson

665A,B,C,D. Advanced Ceramics. (4:4:4 ea.) Prerequisite: Art 664. Wilson

666. Advanced Metal and Jewelry Design. (2:2:2) F.S. Weaver

667A,B,C,D. Advanced Crafts. (4:4:4 ea.) Prerequisite: Art 666. Weaver

668. Art Education. (2:2:0) S. Breinholt, Gunn

671. Survey of Recent Studies in Art Education. (2:2:0) Breinholt, Gunn

674. Advanced Portrait Painting. (2:2:2) F. Andrus

676A,B,C,D. Advanced Portrait and Figure Painting. (4:Arr.:Arr. ea.) Prerequisite: Art 674. Andrus

680. Advanced Mural Design and Painting. (2:2:2) F. Darais

682A,B,C,D. Advanced Mural Design and Painting. (4:4:4 ea.) Prerequisite: Art 580 or 680. Darais

690. Color. (2:2:0) F. Andrus

692. Color. (2:2:0) S. Prerequisite: Art 690. Andrus

695. Seminar. (1:1:0) F.S.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.)

Asian Studies

亞洲研究

Professor: Hyer.

Associate Professors: Farnsworth, Hillam, Palmer.

Assistant Professors: Britsch (coordinator), Horiuchi, Williams.

Asian Studies

The Asian Studies Program is an interdisciplinary program which provides for two majors or a major and minor combination leading to the B.A. degree.

The program is designed to prepare students for careers and advanced study in the specialized field of the Far East not provided by a major in one department. In the program, students will acquire a working competency in either the Chinese, Japanese, or Korean language, a broad knowledge of the civilizations of the Far East, and a more specialized knowledge in an academic discipline as applied to Asia. The program is intended for those students desiring to make an intensive study of the cultural history, modern development and problems of Asia. It applies the techniques of and acquaints students with the contributions of anthropologists, linguists, historians, political scientists, economists, sociologists, and geographers. The major as outlined proves useful to students contemplating careers in the academic areas, private industry, or government service. The import-export field and international services are particularly interested in persons who have a strong background in Asian studies. Students may enter the program only with the approval of the committee on Asian studies and shall register each semester thereafter under its direction.

Requirements for a Major

Asian studies majors are required to fill a concurrent (double) major in a regular discipline.

1. Core courses dealing directly with Asia (starred in the list below) from three fields outside the regular major		14 hrs.
2. Elective courses dealing more generally with Asia (any in the list below) from fields outside the regular major		3 hrs.
3. Language Requirement		20 hrs.
A. Nonlanguage majors		
Chinese, Japanese or Korean language (This includes 12 hours applied to the general education requirements of the University.)	20 hrs.	
B. East Asian language majors. The 20 hours are to be divided as follows:		
(1) 101, 102 from major language	8 hrs.	
(2) Additional East Asian language or courses from the list below	12 hrs.	
	20 hrs.	
4. Senior Seminar in Asian Studies		3 hrs.

Requirements for a Minor

A total of 14 hours (in addition to a regular major and 12 hours of an Asian language, equivalent to the bachelor's-degree requirement) divided as follows:

1. Core courses	8 hours
2. Elective courses (including three hours of language study)	6 hours

		Hours
Anthropology		
111.	Cultures of the World	3
*350.	Peoples of South and East Asia	3
Art		
*302.	Oriental Art and Appreciation	2
Geography		
120.	Geography and World Affairs	3
*470.	Asia	3
*571.	Problems of Asia	2
History		
*340.	Premodern Asia	3
*341.	Modern Asia	3
*343.	Formative Period of Chinese Civilization	3
*344.	Modern China	3
*345.	Formative Period of Japanese Civilization	3
*346.	Modern Japan	3
*347.	India	3
*349.	Central Asia	3
Language		
Chinese (Mandarin):		
101, 102.	First-Year Chinese	4 ea.
201.	Second-Year Chinese	4
211.	Second-Year Conversation	2
301.	Second-Year Chinese (continued)	4
311.	Third-Year Conversation	2
321, 322.	Selected Readings and Compositions	3 ea.
421, 422.	Readings in Chinese Social Sciences	3 ea.
441, 442.	Introduction to Classical Chinese	4 ea.
443, 444.	Modern Chinese Literature	3 ea.
445.	Chinese Civilization	3
490, 491.	Individual Study in Chinese	1-3 ea.
Japanese:		
101, 102.	First-Year Japanese	4 ea.
201.	Intermediate Reading and Conversation	4
211.	Second-Year Conversation	2
301.	Introduction to Japanese Literature	4
311.	Third-Year Conversation	2
321.	Third-Year Grammar and Composition	3
322.	Third-Year Grammar and Composition	3
443, 444.	Modern Japanese Literature	3 ea.
490, 491.	Individual Study in Japanese	1-3 ea.
Korean:		
101, 102.	First-Year Korean	4 ea.
201.	Intermediate Korean Reading and Conversation	4
301.	Introduction to Korean Literature	4
Political Science		
250.	Foreign and International Political Systems	3
*551.	Political System of China	3
*552.	Political System of Japan	3
*558.	Political Systems of Southeast Asia	3
*580.	International Relations of Asia	3
Religion		
453.	World Religions	2
*555.	Comparative World Religions (Asian)	2
*556.	Comparative World Religions (Asian)	2
*559.	History of Christianity in Asia	2

Economics

241.	Comparative Economic Systems	3
430.	Economic Development	3
*535.	Economic Problems of Asia	3

Courses

101. Introduction to Asia. (3:3:0) F.S.

A topical introduction to Asian culture and civilization, approached from the standpoint of geography, history, politics and government, religion and thought, anthropology, art, and literature.

499. Senior Seminar in Asian Studies. (3:3:0) F.S.

Sources, materials and methods of research and writing, including critical analysis of a research project. Required of all Asian studies majors in the senior year.

501. Intensive Introduction to Asian Studies for Teachers. (3:3:0) Su.

Readings, lectures, and individual study designed to assist public school teachers to integrate Asian studies into the curriculum of social studies, world history and geography. To A.D. 1600.

502. Intensive Introduction to Asian Studies for Teachers. (3:3:0) Su.

Readings, lectures, and individual study designed to assist public school teachers to integrate Asian studies into the curriculum of social studies, world history, and geography. Since A.D. 1600.

Instructor with students in Asian Studies class

Botany

Professors:	Christensen (chairman, 210 B), Harrison, Moore, Murdock, Stutz, Welsh.
Associate Professors:	Andersen, Hess, Whitton.
Assistant Professors:	Hanks, Stocks, Tidwell.
Instructors:	Liechty, Van Cott.
Collaborators:	Neil C. Frischknecht, Ralph C. Holmgren, Odell Julander.

The courses offered in the Botany Department provide professional training for rewarding careers in the plant sciences and present an avenue to everyone for enlarging his understanding of life and for appreciating the beauty in the world in which we live.

Career opportunities are available to botanists in governmental services, in industry, in secondary schools, colleges, and universities, and in research institutions. Botanists are employed as teachers, conservationists, range managers, geneticists, plant breeders, plant physiologists, mycologists, plant quarantine inspectors, taxonomists, museum curators, park naturalists, park rangers.

Three professional undergraduate curricula in the department are offered. In addition to the central program in botany, two other major areas of specialization are provided; one for prospective biology teachers and one for range managers. A two-year preforestry program is also available.

Required and Recommended Courses for Botany Majors

Required Courses:

Bot. 101, 110, 225, 321, 331, 335, 376, 440, 450, 490

Math. 105 and 106 or 111

Chem. 105, 106, or 101, 151

Students majoring in botany are required also to gain some field experience in botany. This requirement may be satisfied by taking Bot. 455, or by attendance at an approved summer biological station, or by appropriate summer field work.

Recommended Supporting Courses:

Agron. 282; Micro. 321, 322; Chem. 223, 351, 353, 384; Geog. 401; Geol. 111, 112; Math. 112, 113; Stat. 221; Zool. 212, 213, 261; Bot. 205, 378, 460.

Suggested Curriculum for Botany Majors for the First Two Years. (Junior and senior year curriculum to be worked out with approval of adviser.)

Freshman Year

Bot. 101	3	Bot. 110	3
Math. 105	3	Math. 106	3
Engl. 111	3	Engl. 112	3
Undergrad. relig.	2	Undergrad. relig.	2
Electives	5	Electives	5
Total Hours	16	Total Hours	16

Sophomore Year

Bot. 225	3	Bot. 321	2
Chem. 105	4	Chem. 106	4
Undergrad. relig.	2	Undergrad. relig.	2
Electives	8	Micro. 321, 322	4
		Electives	5
Total Hours	17	Total Hours	17

Major and Minor for Secondary Teachers

Prospective biology teachers must complete either a botany major and a zoology minor or a zoology major and a botany minor. Bot. 377 and 479 are required for certification of all prospective biology teachers.

Teaching Major (28 or 29 hours)

Bot. 101, 110, 205, 321, 331, 376, 440, 450, 490, plus one of the following: Bot. 225, 335, 455, 460.

Required Supporting Courses:

Micro. 321; Math. 105, 106, or 111; Chem. 105, 106, or 101, 151.

Recommended Supporting Courses:

Agron. 282; Geog. 401; Geol. 111, 112; Chem. 151, 353, 384 or 351; Math. 112, 113; Stat. 221.

Teaching Minor (17 hours)

Bot. 105, 110, 440, and seven hours from the following courses: Bot. 205, 225, 321, 450, 460.

Range Management and Range Conservation

Courses required for the range management and range conservation option:

Bot. 101, 105, 110, 276 or 376, 440, 450, 469.
Agron. 282, 303.
An. Sci. 207, 335, 340.
Agr. Econ. 101 or 112.
Chem. 105 and 106 or 101, 151.
Geog. 211.
Geol. 101 and 102, or 111.
Math. 101, 105, and 106 or 111.
Stat. 221.
Zool., two courses from 212, 213, 230, 347, 451.
Range Management Courses (15 hours)
  Bot. 365, 455, 462, 466, 493.
  Seven hours from the following: Agr. Econ. 325 or 350; Agron. 340 or 455; Bot. 460, 515, 561, 750.

Recommended Supporting Courses: Agron. 302, 305, 411; Bot. 161, 205, 480, 557; Chem. 384; Geog. 401; Math. 112, 113.

Preforestry

Students may prepare themselves for further training in forestry by taking the preforestry curriculum during their first two years of college work. The preforestry program at Brigham Young University is under the supervision of the Department of Botany. During the freshman and sophomore years students in the preforestry program are registered for the basic science courses required for training in forestry and general education courses. Upon completion of this program students may enroll in a professional forestry school for their major work in forestry.

Courses

101. Plant Biology. (3:3:2) F.S.Su. (G-BS m)

The study of life, using plants to illustrate the processes and structure of living organisms.

105. Plant Kingdom. (3:3:2) F.S.Su. (G-BS m) (Field trip to be arranged.)
A survey of the plant kingdom, including the morphology of representative species.

110. Plant Classification. (3:2:3) S.Su. (G-BS m) Home Study also.
Harrison, Welsh
General principles of taxonomy and use of manuals with emphasis on classification of temperate flora.

161. General Forestry. (3:3:0) F. (Field trip to be arranged.)
General principles of forestry and forest conservation. The relationship of forests to human affairs.

205. Field Botany. (2:1:3) F.S.Su. (G-BS m)
A study of the common trees and shrubs and their uses.

225. General Cytology. (3:2:3) F.S. (m) Moore, Whitton
The organization and function of cells.

276. Heredity. (3:3:0) F.S.Su. Home Study also. (G-BS m) Prerequisite: Bot. 101 or 105 or Zool. 105.
The principles of inheritance. For students not majoring in biological science; majors should take course 376.

301. Introductory Botany. (4:3:3) F.S. Prerequisites: nine semester hours in biology, including a course in genetics.
An advanced introductory course in botany at the junior level. Designed primarily for premedical and predental students.

321. Plant Anatomy. (2:1:3) F.S. (m) Prerequisite: Bot. 101 or Zool. 105.
Christensen, Tidwell
A study of plant structures.

331. Morphology of Green Plants. (5:3:6) S. (m) Prerequisites: Bot. 101 or Zool. 105.
Basic structures, relationships, and life histories of representatives of the major plant groups, exclusive of the fungi.

335. Mycology. (3:1:6) F. (m) Prerequisites: Bot. 101 or Zool. 105. Hanks
A study of fungi.

365. Range Forage. (2:0:6) F. Prerequisite: Bot. 110. Murdock
Characteristics, distribution, and value of the more important forage plants of the western range.

376. Genetics. (3:3:0) F.S. (G-BS m) Prerequisite: Bot. 101 or Zool. 105.
Andersen, Stutz, Whitton
The principles of genetics.

377. Secondary Teaching Procedures in Biology. (3:3:1) F.S. Prerequisite: Tchr. Ed. 301. Leichty, Stocks
For course description see Tchr. Ed. 377. Required of biology teachers.

378. Genetics Laboratory. (1:0:3) F.S. (m) Prerequisite: completion of or concurrent registration in either Bot. 276, 376, or equivalent.
Andersen, Whitton
Laboratory and field exercises in genetics.

440. Plant Physiology. (4:3:3) S. (m) Prerequisites: Bot. 101 and college chemistry. Harrison
Water relations, mineral nutrition, synthesis of foods, digestion, respiration, and growth and reproduction of plants.

450. Plant Ecology. (3:2:3) F.S. (m) (Field trips to be arranged.) (G-BS) Prerequisite: Bot. 101 or Zool. 105. Christensen, Murdock
Relation of plants to their environment, their adaptations to factors of soil and climate, their influences on each other, and their relationships to other organisms.

455. Field Ecology. (2:1:Arr.) S.Su. (m) (Includes one field trip of about one week's duration.) Prerequisite: consent of instructor. Christensen, Murdock

Ecological field work in forests and rangelands.

460. Conservation of Natural Resources. (2:2:0) F.S.Su. (Field trip to be arranged.) (G-BS m) Home Study also. Christensen, Julander, Moore, Murdock

Need for and means of providing conservation of renewable natural resources.

462. Range Management. (3:2:3) S. (m) Prerequisite: Bot. 450. Julander, Murdock

Problems associated with the management, grazing, revegetation, and maintenance of rangelands.

466. Range Revegetation and Improvement. (3:2:3) F. (m) Prerequisite: Bot. 450. Julander, Murdock

Artificial and natural revegetation and the use of fencing, watering, and other range facilities.

469. Forest Management. (3:3:0) S. (Field trips to be arranged.) Taylor

Management of forest resources for multiple use.

479. Secondary Student Teaching. (4-8:0:20-40) F.S. Prerequisite: Bot. 377. Leichty, Stocks

For course description see Tchr. Ed. 479. Required of biology teachers.

480. Plant Pathology. (3:2:3) F. (m) Prerequisite: Bot. 101 or Zool. 105. Hess

Important plant diseases, their identification, causes, and methods of control.

490. Seminar. (1:1:0) F. (m)

Presentation and discussion of selected topics.

493. Seminar in Plant Ecology and Range Management. (1:1:0) S.

Presentation and discussion of current research in range ecology and range management.

496. Special Problems in Range Management. (1-3:0:3-9) F.S.

498. Special Problems. (1-3:0:3-9) F.S.

501. Histological Technique. (2:0:6) F. (Offered 1969-70 and alternate years) Prerequisite: Bot. 101 or Zool. 105. Moore

Techniques of preparing plant tissues for microscopic examination.

510. Advanced Taxonomy. (3:2:3) (One three-day field trip to be arranged.) S.Su. Prerequisites: Bot. 110 and Bot. 276 or consent of instructor. Welsh

515. Agrostology: Taxonomy and Ecology of Grasses. (2:1:5) F. (Offered 1968-69 and alternate years) Prerequisite: Bot. 110. Harrison

Classification and ecology of grasses. Important forage species are emphasized.

525. Advanced Cytology. (3:2:3) F. (Offered 1968-69 and alternate years) Prerequisite: Bot. 101 or Zool. 105. Moore, Whitton

535. Advanced Mycology. (4:2:6) S.Su. (Offered 1969-70 and alternate years) Prerequisite: Bot. 335 or equivalent. Hanks

A detailed study of taxonomy and morphology of special groups.

539. Paleobotany. (3:2:3) S. (Offered 1969-70 and alternate years) Prerequisites: Bot. 101 or 105, and Geol. 112. Tidwell

550. Plant Geography. (3:2:3) F. (Offered 1969-70 and alternate years) Welsh

The distribution of plant species and communities in the light of present and past climates.

557. Experimental Ecology. (2:0:6) S. (Offered 1968-69 and alternate years) Murdock

Investigations on the phenology of selected species.

561. Watershed Management. (3:2:3) S. (Offered 1969-70 and alternate years) Murdock

591. Seminar. (1:1:0) F.

Presentation and discussion of current topics in botany.

598. Special Problems. (1-3:0:3-9) F.S.

610. Botanical Terminology and Nomenclature. (2:2:0) F.Su. (Offered 1968-69 and alternate years) Prerequisite: consent of instructor. Clark, Welsh

A detailed study of botanical terminology, including the contributions of Latin and Greek words, their gender, number, and case.

620. Cell Biology. (3:2:3) S. (Offered 1969-70 and alternate years) Hess

621. Electron Microscopy. (2:2:0) S. Hess

Theoretical and practical aspects of electron microscopy of biological material, including electron diffraction, tissue preparation, replication, shadow casting of specimens, and freeze-etch procedures as they apply to various sciences.

622. Electron Microscopy Laboratory. (1:0:3) S. Prerequisites: consent of instructor and Bot. 621, or concurrent registration in Bot. 621. Hess

Laboratory to accompany Botany 621. Essentially individual instruction.

630. Angiosperm Morphology. (4:3:3) F. (Offered 1968-69 and alternate years) Prerequisite: familiarity with taxonomy, anatomy, and physiology or biochemistry. Tidwell

634. Morphogenesis. (3:2:3) F. (Offered 1969-70 and alternate years) Prerequisite: familiarity with taxonomy, anatomy, and physiology or biochemistry. Moore

The development of form in organisms, with emphasis on plants.

638. Advanced Mycology II. (2:1:3) F.Su. (Offered 1968-69 and alternate years) Prerequisite: a laboratory course in microbiology, botany, or zoology. Hanks

Advanced studies of fungi with emphasis on genetics.

641. Physiology of Fungi and Algae. (4:3:3) F. (Offered 1969-70 and alternate years) Prerequisites: Bot. 335, 440. Hanks, Stocks

655. Field Ecology. (2:1:Arr.) S.Su. (Extended field trip.) Prerequisite: consent of instructor. Christensen, Murdock

Ecological field work in forests and rangelands.

676. Cytogenetics. (3:2:3) F. (Offered 1968-69 and alternate years) Prerequisites: genetics and cytology. Andersen, Stutz

678. Organic Evolution. (3:3:0) S. Prerequisite: genetics or consent of instructor. Stutz

680. Advanced Plant Pathology. (3:2:3) F. (Offered 1969-70 and alternate years) Prerequisite: Bot. 480. Hess

A detailed study of plant diseases and their causes, with emphasis on viruses, fungal pathogens, or nematodes.

691. Graduate Seminar. (1:1:0) S. Staff

697, 698. Special Problems. (1-3:0:3-9 ea.) F.S.Su. Staff

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

740. Advanced Plant Physiology I. (3:2:3) S. (Offered 1969-70 and alternate years) Prerequisite: Bot. 440. Harrison

741. Advanced Plant Physiology II. (3-4:2-3:3) S. (Offered 1968-69 and alternate years) Prerequisite: Bot. 440, Chem. 351. Stocks

742. Plant Nutrition and Growth. (3:2:3) F. (Offered 1968-69 and alternate years) Prerequisite: Bot. 440. Harrison

750. Grassland and Desert Ecology. (3:3:0) F. (Offered 1968-69 and alternate years) Prerequisite: consent of instructor. Christensen, Murdock

752. Forest Ecology. (3:3:0) F. (Offered 1969-70 and alternate years) Prerequisite: consent of instructor. Christensen, Murdock

760. Conservation of Natural Resources. (3:2:3) S. (Offered 1968-69 and alternate years) Prerequisite: consent of instructor.
Christensen, Julander, Murdock, Moore

776. Population Genetics. (3:3:0) S. (Offered 1969-70 and alternate years) Prerequisite: genetics. Stutz

795. Research for Doctoral Degree. (2-4:0:6-12) F.S.Su. Staff

799. Doctoral Dissertation. (Arr.) F.S.Su. Staff

Students studying plants in field botany class

Business Education

Professors:	Bell, D. Peterson.
Associate Professors:	Croft, B. Petersen, Polson, Waters (chairman, 351 JKB).
Assistant Professors:	DeMille, Nelson, Perry, Smith, Taylor, Warner.
Instructors:	Ashby, Boyer, Downey, Hartman, Tingey.

The Business Education Department provides, within the framework of the College of Business, the preparation needed by young men and women for responsible positions in business and professional business teaching. The four-year programs described below include basic preparation in general education and the college "core" of business fundamentals. A maximum of five hours of "D" credit in required business education courses (or approved substitutes) will be accepted toward satisfying the requirements of any of the majors in this department.

Division of Business Fundamentals

As indicated in the College of Business Section, all students desiring to major in the Business Education Department will register in the Division of Business Fundamentals until they have completed the College of Business lower-division core course requirements applicable to their major and have completed at least 62 semester hours of approved university credit.

Upon completion of these requirements, students who have earned a 2.25 grade-point average in the above-mentioned core courses will be permitted to transfer to the major in which they intend to specialize and graduate.

Office Administration

The office administration major is intended for students interested in the fields of administrative services, office supervision and personnel management.

Preparation is provided for positions in middle management in the expanding profession of office administration. Training in organization, data processing and analysis, systems and procedures analysis, communications, and supervision of personnel are emphasized. An opportunity for on-the-job training, coupled with class work, may be included to provide a well-rounded program designed to meet employment requirements.

Executive Assistant

The executive assistant major is structured to prepare students to assume responsible business secretarial positions. The program provides a background in general education, business administration, and secretarial procedures. To work cooperatively and understandingly with the business executive is a basic tenet in the preparation of young men and women desiring to become executive assistants.

Business Teacher

The College of Business cooperates with the College of Education in preparing students for certification to teach business education in public secondary schools. Majors are recommended for graduation upon the successful completion of (a) one of the two composite majors (accounting-economics or secretarial-office administration) offered by the Business Education Department, and (b) the professional education courses prescribed by the College of Education for secondary school teacher certification.

Graduate Business Teacher Education

A complete program of graduate courses in business teacher education is provided for teachers desiring a master's degree, or for experienced teachers desiring to fulfill state recertification requirements. Consult the Graduate Catalog for further details.

Business Technology

(Two-year program)

See the College of Industrial and Technical Education Section of this catalog.

Office Administration Major

I. College of Business Core Requirements:

Math. 108* or equivalent	4
Acctg. 201* and 202*	6
Acctg. 232	3
Acctg. 342	3
Bus. Mgt. 247	3
Bus. Mgt. 348	3
Econ. 111* and 112*	6
Econ. 301 or 302	3
Stat. 221*	3

*Bus. Fundamentals Requirement

II. Office Administration Requirements:

Bus. Ed. 220	3
Bus. Ed. 305	3
Bus. Ed. 320	3
Bus. Ed. 480	2
Bus. Ed. 485	1
Bus. Mgt. 321	3
Comput. Sci. 201	2
Comput. Sci. 331	3

Five or six hours of elective business courses selected in consultation with and approved by the student's major adviser (a minimum of 3 hours must be in departments other than Business Education). The following are some recommended elective courses:

Bus. Ed. 370	3
Bus. Ed. 470**	2-4

**Approval of department chairman required.

Acctg. 301	3
Acctg. 302	3
Acctg. 356	3
Acctg. 555	3
Comput. Sci. 332	3
Comput. Sci. 333	3
Comput. Sci. 431	3
Comput. Sci. 451	3

Executive Assistant Major

I. College of Business Core Requirements:

Math. 108 or equivalent*	4
Acctg. 201* and 202*	6
Acctg. 342	3
Bus. Mgt. 247	3
Bus. Mgt. 348 or Econ. 353	3
Econ. 111* and 112*	6
Econ. 301, 302, or 274	3
Stat. 221*	3

*Bus. Fundamentals Requirement.

II. Executive Assistant Requirements:

Bus. Ed. 203	2
Bus. Ed. 204	2
Bus. Ed. 206	2
Bus. Ed. 220	3
Bus. Ed. 305	3
Bus. Ed. 311	3
Bus. Ed. 320	3
Bus. Ed. 370	3
Bus. Ed 411	3
Bus. Ed. 475	3
Bus. Ed. 485	1
Bus. Mgt. 380 or 381	1

Business Teacher Major

I. College of Business Core Requirements:

To qualify for a teaching major, students in the business teaching program must complete Acctg. 201 and 202, and Econ. 101.

II. Professional Educational Requirements:

(See "Preparation of Secondary School Teachers" in the Teacher Education Section for required professional education courses leading to secondary certification.) Certification requirements must be completed to be recommended for graduation. The following courses are taken through the Business Education Department:

Bus. Ed. 377	3

Required for secretarial-office administration majors only.

Bus. Ed. 378	3

This course is required in both business education majors.

Bus. Ed. 479	8

III. Accounting-Economics Composite Major Requirements:

Acctg. 201	3
Acctg. 202	3
Acctg. 301	3
Acctg. 302	3
Bus. Ed. 220	3
Bus. Ed. 300	2
Bus. Ed. 320	3
Econ. 111 or 101	3
Econ. 112	3
Econ. 274	3
Econ. 353	3

19 additional hours selected from the following courses:

Acctg. 342	3
Acctg. 356	3
Bus. Ed. 203	2
Bus. Ed. 204	2
Bus. Ed. 206	2
Bus. Ed. 305	3
Bus. Ed. 370	3
Bus. Ed. 377	3
Bus. Ed. 485	1
Bus. Mgt. 247	3
Bus. Mgt. 340	3
Bus. Mgt. 380	1
Bus. Mgt. 381	1
Econ. 241	3
Econ. 301	3
Econ. 302	3

Econ. 358	3
Geog. 231	3

IV. Secretarial-Office Administration Composite Major Requirements:

Acctg. 201	3
Acctg. 202	3
Bus. Ed. 113*	3
Bus. Ed. 203*	2
Bus. Ed. 204	2
Bus. Ed. 206*	2
Bus. Ed. 220	3
Bus. Ed. 300	2
Bus. Ed. 305	3
Bus. Ed. 311	3
Bus. Ed. 320	3
Bus. Ed. 370	3
Bus. Ed. 378	3
Econ. 101 or Econ. 111	3

*May be filled by examination.

11 additional hours selected from the following courses:

Acctg. 342	3
Acctg. 356	3
Bus. Ed. 101	2
Bus. Ed. 111	4
Bus. Ed. 112	3
Bus. Ed. 411	3
Bus. Ed. 475	3
Bus. Ed. 485**	1
Bus. Mgt. 205	2
Bus. Mgt. 247	3
Bus. Mgt. 380 or 381	1
Econ. 112	3
Econ. 241	3
Econ. 274	3
Econ. 353	3
Econ. 358	3
Geog. 231	3

**Taught only Fall Semester.

All business teacher majors must take the following courses in the four-semester sequence shown below. (Check course descriptions for course prerequisites.)

Tchr. Ed. 301 and Bus. Ed. 300
Bus. Ed. 377 and/or Bus. Ed. 378
Bus. Ed. 479
Tchr. Ed. 403

Minors

See the Teacher Education Section of this catalog for approved business teacher minors.

The Business Education Department also offers two nonteaching minors—one in the office administration program and one in the executive assistant program.

The office administration minor requires the completion of 14 hours of credit, including Bus. Ed. 206, 220, 305, 320, and 370.

An executive assistant minor requires the completion of 14 hours of credit, including Bus. Ed. 113, 203, 206, 220, and 370. Additional hours may be completed by electives in the Business Education Department.

Courses

100G. Introduction to Business. (3:5:0) F.
An introduction to business functions and vocabulary for students without a background understanding of the American business economy. Registration by invitation.

101. Beginning Typewriting. (2:3:2) F.S.Su.
Mastery of the keyboard and development of basic skills. Students with high school credit in typewriting should not register for this course.

111. Elementary Shorthand. (4:5:1) F.S.Su. Prerequisite: Bus. Ed. 101 or equivalent.
Fundamentals of shorthand theory with emphasis on fluency in reading and writing shorthand. Not recommended for students with previous courses in Gregg shorthand.

112. Intermediate Shorthand. (3:5:1) F.S.Su. Prerequisite: Bus. Ed. 111 or equivalent.
Development of accelerated shorthand writing and transcription combined with Gregg shorthand theory reinforcement. Enrolling students should be able to take dictation at a minimum of 60 words per minute and typewrite at 50 words per minute.

113. Advanced Shorthand. (3:5:1) F.S.Su. (m) Prerequisite: Bus. Ed. 112 or equivalent.
Emphasis on accelerated shorthand writing and rapid transcription of letters. Enrolling students should be able to take dictation at a minimum of 80 words per minute and typewrite at 50 words per minute.

203. Speedbuilding in Production Typewriting. (2:3:2) F.S.Su. (m) Prerequisite: Bus. Ed. 101 or equivalent.
Intensive drills with emphasis on production of speed and control in the production of manuscripts, outlines, minutes, tabulations, letter writing, rough drafts, and legal instruments.

204. Advanced Production Techniques in Typewriting. (2:3:2) F.S. Prerequisite: Bus. Ed. 203 or equivalent.
Application of advanced production techniques to practical business problems including statistical reports, office projects, editing, and composition.

206. Calculating Machines. (2:3:2) F.S.Su. (m)
Instruction and practice in the operation of adding machines, rotary calculators, printing calculators, and electronic calculators for solving practical business problems.

220. Business Communication. (3:3:0) F.S.Su. Home Study also. (m) Prerequisites: Engl. 111, 112.
Experience in the composition of business correspondence with emphasis on the psychological principles which foster favorable human relations and good-will.

275. Stenographic Procedures. (4:3:3) F.S.Su.
A comprehensive review of office responsibilities accompanied with laboratory experiences. Areas of concentration include duplicating processes, dictation and transcription, data processing, human relations, office record management, and work simplification.

300. Fundamentals of Business Education. (2:2:0) F.S.Su.
An introduction to business education from the point of view of the professional classroom teacher, including a brief examination of numerous aspects of the business teacher's role and responsibilities.

☐**Accounting 301, 302. Intermediate Accounting.** (3:3:0 ea.)

305. Principles and Methods for Analyzing Office Operations. (3:3:0) F.S. Home Study also. (m)
An introduction to administrative services, management skills and office supervision. Areas of concentration include organization practices, data processing, systems and procedures, quantity and quality control, work simplification, job analysis and motivation.

311. Transcription. (3:3:4) F.S.Su. Prerequisites: Bus. Ed. 220 and 113 or equivalent.
Emphasis on accurate and rapid shorthand transcription utilizing a variety of written communication skills. A minimum speed of 100 words per minute is required for entrance.

320. Report and Business Writing. (3:3:0) F.S.Su. (m)
Experience in the organization and preparation of business reports with emphasis on the refinement of language skills and the techniques of collecting, analyzing, interpreting, and presenting information useful to management.

☐**Business Management 321. Organizational Behavior and Administration.** (3:3:0)

☐**Accounting 356. Accounting Information Systems.** (3:3:0)

370. Records Control and Office Machines. (3:3:3) F.S.Su. (m)
Mastery of the fundamentals and principles of records management, duplicating and office machines, and machine transcription.

377. Secondary Teaching Procedures—Secretarial. (3:3:1) F.S.Su. Prerequisites: Bus. Ed. 300 and Tchr. Ed. 301.
Principles, management, and methodology of teaching secretarial subjects: typewriting, shorthand, and office practice.

378. Secondary Teaching Procedures—Socio-Business. (3:3:1) F.S.Su. Prerequisites: Bus. Ed. 300 and Tchr. Ed. 301.
Principles, management, and methodology of teaching bookkeeping, general business, economics, and other socio-business subjects.

☐**Business Management 380, 381. Executive Lectures.** (1:1:0)

411. Expert Shorthand. (3:5:1) S. Prerequisite: Bus. Ed. 311.
Emphasis on high-speed shorthand writing with specialized vocabularies, shortcuts, and techniques for recording and transcribing minutes of meetings, conferences, and court proceedings. Enrolling students should be able to take dictation at a minimum of 120 words a minute.

470. Cooperative Business Experience Internship. (2-4:0:10-20) F.S.Su.
The student is placed in office situations at the prevailing rate of pay enabling him to enrich classroom theory with practical application. Arrangements for this internship (available on block and semester plan) must be made at least one semester in advance with the departmental supervisor of office administration.

475. Procedures for Executive Assistants. (3:3:2) F.S.Su. Prerequisites: Bus. Ed. 204, 220, 311, 320, and 370.
Culminating secretarial course including coordination and integration of past learnings; studies in human relations and specialized secretarial duties (minutes of meetings, itineraries, legal work, etc.)

479. Secondary Student Teaching. (8:0:40) F.S. Prerequisite: Bus. Ed. 377
For course description and fee see Tchr. Ed. 479.

480. Case Studies in Office Management. (2:2:1) S. (Alternate years)
Extensive use of cases in office management. Student analysis, group discussions, and written reports form the principal basis for conduct of the course.

485, 486. Lectures on Office Administration. (1:1:0 ea.) F.
Each offered alternate years.

☐**Accounting 555. Data Processing Systems.** (3:3:0)

615. Methods of Instruction in Business Education: Typewriting and Shorthand. (3:3:0) F.Su.
An analysis of classroom methods, psychology of learning, and findings of research pertaining to improvement of instruction in typewriting, shorthand, and related subjects.

620. Methods of Instruction in Business Education: Bookkeeping and Economic Education. (3:3:0) S.Su.
An analysis of course content, classroom methods, and teaching materials pertaining to improvement of instruction in bookkeeping and economic education.

625. Tests and Measurements in Business Education. (3:3:0) S.Su. Prerequisite: Stat. 221 or equivalent.
A survey of classroom tests and instruments of evaluation used in business education, and an analysis of their uses and methods of construction.

630. Current Developments Influencing the Curriculum and Content of Business Education. (2:2:0) S.Su.
A study of recent technological developments, such as automation in business, and an analysis of the content, materials, and procedures of business education.

635. Analysis of Recent Research in Business Education. (3:3:0) F.Su.
Review and analysis of recent research in business education, and evaluation of its implications for improved classroom instruction.

640. Trends of Thought in Business Education. (2:2:0) F.Su.
Fundamental ideas that have shaped the business curriculum in the United States, and basic issues that have affected purposes, trends, and control of business education in public and private institutions.

665. Practicum in Business Education. (3:3:0) F.Su.
An introduction to research in business education with emphasis on research methods, research design, and the analysis and evaluation of completed research projects.

675, 676. Business Education Workshop. (2:2:0 ea.) Su.
A series of clinics in selected business subjects.

690A,B,C,D. Seminar in Business Education. (1:17:23) Su.
An intensive one-week clinic emphasizing teaching methodology in one or more selected topics in business education.

692. Research Project. (1-4:Arr.:Arr.) F.S.Su.

694. Independent Readings. (1-2:1-2:0) F.S.Su.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

Business Management

Professors:	Boyle (emeritus), E. Christensen, James, Oaks, W. Taylor.
Associate Professors:	Call, Daines, Eagar (chairman, 395 JKB), Sessions.
Assistant Professors:	Barnes*, Faerber*, Pinney.
Instructors:	C. Christensen, Cox, Lambert*, Smith.

The primary objectives of the department are (1) to prepare students for responsible leadership in their chosen professions; (2) to train, in depth, students interested in careers in marketing, production, finance, or other functional areas; and (3) to give students a broad understanding of individual and group behavior in industry.

Both the content and instructional methods of business management courses are designed to develop qualities in students which will help them to realize their full career potential. Emphasis is placed on analytical skill and sound reasoning, insight and balanced judgment, understanding of human problems in organizations, proficiency in written and oral communication, and the rigor of learning on one's own initiative. The Department of Business Management also recognizes its responsibility to acquaint students with current research findings in the social sciences, techniques of decision making, new tools of quantitative analysis, and other applications of the management sciences. In addition, students are exposed to changing values and goals in today's society; the social responsibility of business leadership; the changing role of government in society and international trade; and the growth of multinational diversified corporations.

The following fields of concentration are administered by the Department of Business Management: advanced business administration, finance, marketing, industrial management, and industrial relations and personnel. After completing general education and the college and departmental core requirements listed below, a student must elect one of the departmental concentrations.

An automatic composite minor in accounting and economics will have been earned by those students majoring in the department at the successful completion of the college and departmental core requirements.

Division of Business Fundamentals

All students desiring to major in business management will register in the Division of Business Fundamentals until they have completed the College of Business lower-division core course requirements and have completed at least 62 semester hours of approved university credit. Core courses are as follows:

Econ. 111, 112
Math. 108 (or equivalent)
Stat. 221
Acctg. 201, 202, 232

Upon completion of these requirements, students who have earned a 2.25 grade-point average in the above-mentioned core courses will be permitted to register in the Department of Business Management.

A maximum of six hours of "D" credit in College of Business courses will be allowed for graduation: three hours in the college and departmental core requirements and three hours in the area of concentration.

For details concerning the program of graduate study leading to the Master of Business Administration degree, students should consult the Graduate School

Catalog. Students interested in office management should see the business education department.

General Education

(Freshman through senior years)

See the Student Academic Services Section of this catalog for courses needed to satisfy the general education requirements of the University. A detailed discussion of courses which can be taken in each required area is listed therein.

COLLEGE AND DEPARTMENTAL CORE

Freshman and Sophomore Years

	Hours
Math. 108	4
Acctg. 232 or Math. 109	3
Acctg. 201, 202	6
Econ. 111, 112	6
Stat. 221	3

Junior and Senior Years

	Hours
Acctg. 342	3
Econ. 301 or 302	3
Bus. Mgt. 321	3
Bus. Mgt. 340	3
Bus. Mgt. 347	3
Bus. Mgt. 348	3
Bus. Mgt. 589	3

GENERAL BUSINESS CONCENTRATION

This is an integrated multifunctional program designed for exceptional students. It is particularly adapted to the needs of students who intend to continue their study of business at the graduate level at a school other than BYU. A minimum overall grade point following completion of the college core is required. Interested students should make written application to the departmental chairman at least four semesters before planned date of graduation.

Students electing this concentration are required to take Mathematics 109 rather than Accounting 232.

Students electing this concentration are required to take the following courses:

	Hours
Bus. Mgt. 461 or 462 or Stat. 433	3
Bus. Mgt. 552	3
Bus. Mgt. 579	3
Electives (See note, page 175	6

FINANCE CONCENTRATION

The course work offered in this area is designed, first, to familiarize business students with the elements of financial planning and, second, to provide specialized work for those who seek positions of management and executive responsibility in financial institutions or the financial departments of business firms. The requirements are flexible enough to allow some specialization toward commercial banking, investment banking, business finance, insurance, real estate, investment management, or financial counseling.

Students electing this concentration are required to take the following courses:

	Hours
Bus. Mgt. 451	3
Bus. Mgt. 452	3
Bus. Mgt. 552	3
Electives (See note, page 175)	6

MARKETING CONCENTRATION

The marketing concentration is designed to prepare students for positions of management and executive responsibility in the fields of industrial marketing, retailing, wholesaling, advertising, sales management, and market research.

Students electing this concentration are required to take the following courses:

	Hours		Hours
Bus. Mgt. 357	3	Bus. Mgt. 579	3
Bus. Mgt. 458	3	Electives (See note below)	6

INDUSTRIAL MANAGEMENT CONCENTRATION

The industrial management concentration provides training for positions in industrial engineering, production control, purchasing, industrial relations, and the operating departments of industrial enterprises. In addition, it facilitates entry into executive trainee programs, the active management of small business, or the continuation of training in a graduate school of business.

Students electing this concentration are required to take Mathematics 109 rather than Accounting 232. It is highly recommended that several courses in chemistry and physics be taken. The following courses are required:

	Hours		Hours
Bus. Mgt. 461 or Stat. 433	3	Bus. Mgt. 463	3
		Stat. 432	3
Bus. Mgt. 462	3	Electives (See note below)	6

INDUSTRIAL RELATIONS AND PERSONNEL MANAGEMENT CONCENTRATION

The personnel management concentration is designed to prepare students for positions in the personnel and employee relations areas for marketing, financial, and manufacturing institutions in business.

Students electing this concentration are required to take the following courses:

	Hours		Hours
Bus. Mgt. 469	3	Econ. 461	3
Bus. Mgt. 521	3	Electives (See note below)	6

Note: Electives may be selected from any 400- or 500-level business management courses (excluding Business Management 381) and from among certain relevant courses from other departments at the University. A list of such courses is available at the departmental office.

MINOR IN BUSINESS MANAGEMENT

Students minoring in the Department of Business Management should complete the College of Business lower-division core course requirements plus twelve hours selected from among upper-division business management courses (excluding Business Management 381).

Courses

205. Personal Finance. (2:2:0) F.S. Home Study also. Pearce

A practical course in money management with particular reference to utilization of savings.

247. Introduction to Marketing. (3:3:0) F.S.Su.

The principles, concepts and problems concerned with the distribution of goods from producer to consumer. Includes treatment of buyer behavior, product planning, pricing, and promotion.

256. Introduction to Retailing. (3:3:0) F.S.Su.

A survey of retail store operation which considers executive control, profit planning, merchandising, store location, layout, organization, policies, system, and coordination of store activities.

321. Organizational Behavior and Administration. (3:3:0) F.S.Su. (m)
Christensen, Covey, James, Lambert

Analysis of case studies and research findings to develop the skills necessary to understand and take action on human problems in business organizations.

340. Production Management. (3:3:0) F.S.Su. (m) Prerequisites: Acctg. 202, 232, or equivalent, Econ. 111, 112, Stat. 221. Christensen, Cox, Faerber

An analysis of the production function in business. Problems in manufacturing economics, mathematical and accounting control techniques, industrial engineering, plant and equipment problems, and wage administration.

347. Marketing Management. (3:3:0) F.S.Su. (m) Prerequisites: Acctg. 202, 232, or equivalent, Econ. 111, 112, Stat. 221.
Barnes, Pinney, Smith, Taylor

Analysis of problems in marketing management with particular emphasis on understanding and use of basic concepts and tools of analysis for marketing decision making.

348. Financial Management. (3:3:0) F.S. (m) Prerequisites: Acctg. 201, 202, and Stat. 221 or consent of instructor. Call, Christensen, Cox

Introduction to the elements of financial management from the viewpoint of the business manager, emphasizing profitability, liquidity, and long-range financial planning.

357. Marketing: Organization, Planning, and Control. (3:3:0) F.S. (m) Prerequisites: Bus. Mgt. 347, Econ. 302. Barnes, Pinney

Analysis of problems and cases in marketing management with particular emphasis on integrating the various functional areas.

380, 381. Executive Lectures. (1:1:0) S.

Top executives from throughout the nation visit the campus and meet students in a series of lectures dealing with subjects significant to executive leadership.

440. Risk Management. (3:3:0) F.S. (m) Prerequisite: Bus. Mgt. 348. Smith

The importance of risk in personal and business affairs; the different methods of meeting risks; meeting insurable risks through insurance; risk and public policy.

451. Investments. (3:3:0) F.S. (m) Prerequisites: Bus. Mgt. 348, Econ. 301 or 302. Daines, Lambert, Pearce

Operation of the security markets with development of one's ability to analyze corporate securities. Introduces investment objectives and design of portfolios for the individual.

452. Commercial Bank Management. (3:3:0) F.S. (m) Prerequisite: Bus. Mgt. 348. Recommended: Econ. 302. Call, Smith

Structure of banking and financial markets; organization, management, and regulation of banks; sources and uses of bank funds, emphasis upon asset portfolio policy; current problems.

454. Problems in Sales Management. (3:3:0) F.S. (m) Prerequisite: Bus. Mgt. 347. Cox, Oaks

Problems in sales methods, sales organization, management of sales force (selection, training, compensation, and supervision), and sales planning and control.

455. Problems in Advertising. (3:3:0) S. (m) Prerequisite: Bus. Mgt. 347.
Barnes

Problems in the use of advertising as part of management's overall marketing, strategy. Stresses planning, coordination, control, and evaluation of effectiveness.

456. Problems in Marketing Channel Management. (3:3:0) F. (m) Prerequisite: Bus. Mgt. 347.

A study of the problems involved in the use, management and integration of retail stores and other intermediaries in the channel of distribution.

458. Marketing Research. (3:3:0) (m) Prerequisite: Bus. Mgt. 357.
Barnes

Exploration of uses, methods, and techniques of marketing research. A major research project is required.

459. Transportation Management. (3:3:0) F. (m) Prerequisites: Bus. Mgt. 340, 347, 348.

An examination of current problems of management in the transportation industries through discussion of cases and readings.

461. Analytical Techniques in Industrial Management. (3:3:0) F. (m) Prerequisite: Math. 109. Cox, Eagar

A study of the optimum allocation of men, machines, and materials in a manufacturing complex.

462. Analysis of Systems. (3:3:0) F. (m) Prerequisites: Math. 109, Bus. Mgt. 340.
Eagar, Faerber

A systems approach to analyzing the problems of planning, controlling, and improving sequences of operations. Course includes critical path scheduling, methods study, and time standards.

463. Advanced Industrial Management. (3:3:0) S. (m) Prerequisite: Bus. Mgt. 462. Eagar, Faerber

Cases, readings, research, and reports on current industrial practices and problems.

465. Life and Health Insurance. (2:2:0) F. (m) Prerequisite: Bus. Mgt. 440.
Smith

Study of protection against economic loss caused by termination of earning capacity through unforeseen contingencies. Analyzes benefits, underwriting, rate-making, and legal doctrines.

466. Property and Liability Insurance. (2:2:0) S. (m) Prerequisite: Bus. Mgt. 440.
Smith

Study of the protection provided by property and liability insurances, including multiple line and "all risks" insurances, and corporate suretyship.

467. Real Estate Administration. (3:3:0) S. (m) Prerequisites: Econ. 111, 112, 301 or 302.

An application of the principles and techniques on problems in property investments. Includes determination of value, financing arrangements, marketing and management problems.

469. Personnel Management. (3:3:0) F.S.Su. (m) Prerequisite: Bus. Mgt. 521 or permission of instructor. James

Management of the personnel function: job evaluation, organization planning, employee selection, training, compensation, morale, labor relations and management development. Method case analysis and research projects.

477. The Social and Cultural Environment of Business Enterprise. (3:3:0) S. (m) Prerequisite: senior standing in the department. Eagar, Faerber

The influence of historical, cultural, psychological and social forces on business behavior.

485. Industry Analysis. (3:3:0) F.S. (m) Prerequisites: Bus. Mgt. 340, 347, 348 or consent of instructor.

Production characteristics of major industries. Large business units are studied in terms of sources of raw materials, production techniques, financial structure, degree of integration, stage of maturity, character of mechanization, government regulation, and possible future developments.

489. Business Policy. (3:3:0) F.S.Su. (m) Prerequisite: senior standing in the department. Christensen, Daines, Eagar, Oaks

Cases involving determination of long-range objectives in the business firm and the development of sound and consistent policies for achieving these objectives.

491. Research and Diagnosis of Business Problems. (1-2:Arr.:Arr.) F.S. (m) Prerequisite: completion of or concurrent registration in Bus. Mgt. 489.

521. Advanced Organizational Behavior and Administration. (3:3:0) F.S. (m) Prerequisite: Bus. Mgt. 321. James

This course examines work groups in business situations. Cases and a report on a work group are used to develop administrative skills in applying general principles.

530. Introduction to International Business. (3:3:0) F.S. (m) Prerequisite: permission of the instructor. Pinney

Introduction to the complexities confronting U.S. firms and their management in international environments. Emphasis is given to functional and planning areas including organization, market research, financial analysis, etc.

531. International Marketing. (3:3:0) F. (m) Prerequisites: Bus. Mgt. 530 or 675. Pinney

Covers problems of marketing U.S. manufactured goods in foreign markets. Emphasis on variables of the marketing mix; i.e., price, product, promotion, and distribution, as they relate to foreign markets.

532. International Corporate Finance. (3:3:0) S. (m) Prerequisites: Bus. Mgt. 530 or 675. Pinney

Emphasis is on financial aspects of multinational corporations operating within an international environment. Included are discussions concerning direct foreign investment, foreign exchange regulations, capital markets, etc.

552. Advanced Financial Management. (3:3:0) F.S. (m) Prerequisites: Bus. Mgt. 348, Econ. 301 or 302. Recommended: Bus. Mgt. 451. Call, Daines, Lambert

Analytical approach to financial concepts such as capital budgeting and present value, valuation, reorganization, and cash management as well as important current financial problems.

571. Management of Financial Institutions. (3:3:0) F.S. (m) Prerequisite: Bus. Mgt. 452. Call

Management problems of major financial institutions; emphasis upon asset management, loan management, competitive environment, regulation, and the process of financial intermediation between borrowers and savers.

574. Security Analysis. (3:3:0) F.S. (m) Prerequisite: Bus. Mgt. 451. Daines, Lambert, Pearce

Critical examination of principles and techniques applicable to the analysis of securities of private business corporations. Advanced techniques of portfolio selection are also discussed.

575. Advanced Production Methods. (2:2:0) S. (m) Prerequisites: Bus. Mgt. 340 and 461.

Advanced methods work, automation, and the application of data processing to industrial operations.

579. Advanced Marketing Theory and Management. (3:3:0) S. (m) Prerequisites: Bus. Mgt. 347, Econ. 301 or 302. Recommended: Bus. Mgt. 357.

An interdisciplinary approach to the study and analysis of marketing problems. Emphasis given to the contributions of the behavioral and quantitative sciences.

585. Industry Analysis. (3:3:0) F. (m) Prerequisite: Bus. Mgt. 340 or consent of instructor.

Production characteristics of major industries. Large business units are studied in terms of sources of raw materials, production techniques, financial structure, degree of integration, stage of maturity, character of mechanization, government regulation, and possible future developments.

602. Introductory Quantitative Analysis. (3:3:0) F.
Techniques of mathematics with special emphasis on applications to business situations.

604. Management Control I. (3:3:0) F.
Accounting as a tool for management; coordination of departmental operations; and control of assets.

606. Interpersonal Competence and Organizational Effectiveness. (3:3:0) F.
A training laboratory experience devoted to the stimulation and support of administrative learning and change.

608. Management Computer Concepts. (2:3:0) F.
The development of electronic computer concepts and programming with a focus on the role of a computer in a business firm.

610. Micro Economics. (3:3:0) F.
Analysis of the decision-making behavior of consumers and firms in a market economy.

612. Marketing Management. (2:3:0) F.
Imaginative problem-solving in marketing management with the aid of business cases and readings.

614. Management Control II. (3:3:0) S.
Accounting as a means of coordinating the operations of a business firm with market conditions.

616. Production Concepts. (2:3:0) S.
Cases and readings on current production processes and problems.

618. Financial Management. (2:3:0) S.
Development of the subject of finance from the point of view of the business manager. Emphasizes the use of financial statements and develops techniques and concepts for analysis of liquidity, profitability, and financial planning.

620. Quantitative Analysis in Executive Decision Making. (3:3:0) S.
The use of probability and statistical inference in risk situations. The focus is on business problems.

624. Macro Economics. (3:3:0) S.
Analysis of the measurement, level, and rate of growth of national income.

626. Written Analysis I. (3:3:0) S.
Written analysis of the characteristics of an administrative viewpoint.

651. Systems Analysis and Design. (3:3:0) F.
Analyzing the problems of planning, controlling, and improving systems.

653. Business Policy I. (3:3:0) F.
A top-management approach to the problems of determining corporate strategy.

655. Advanced Mathematical Analysis for Business Decisions. (3:3:0) F.
A study of quantitative decision models under certainty, risk, and uncertainty.

657. Advanced Financial Management. (2:3:0) F.
Analytical approach to such financial management concepts as capital budgeting and present value, valuation, reorganization, dividend policy, stockholder relationships, money and capital markets, and long-range financial planning.

659. Problems of Marketing Strategy. (2:3:0) F.
A strategic approach to product planning, pricing, consumer profiles, and market development.

661. Written Analysis II. (3:3:0) F.
The preparation of a major topical research report drawn from first-hand industrial observation.

663. Business Policy II. (3:3:0) S.
A top-management approach to the problem of implementing corporate strategy.

665. Human Relations. (2:3:0) S.
Concepts of human relations theory with particular emphasis on group and intergroup conflict and collaboration.

667. Management of Financial Institutions. (2:3:0) S.
Review and analysis of the structure of our overall financial system to develop understanding of the primary forces which affect this system. Consideration of the major financial management problems of principal financial institutions.

669. Investments. (2:3:0) S.
The principles and practice of investment, with special attention to investment analysis, elements of the investment process and markets, and criteria for investment decision. Problems of both individual and institutional investors will be considered.

671. Written Analysis III. (2:3:0) S.
An analytical critique and presentation of a major topical research report.

673. The Business Administrator and Government Policy. (2:3:0) S.
The impact of governmental policies and practices on a business administrator.

675. International Business Management. (3:3:0) S.
Business decision making in other countries with emphasis on financial reporting, personnel practices, production processes, and marketing channels.

677. Business, Society, and the Individual. (2:3:0) S.
Ethical concepts in business administration and the influence of business upon the individual and the total social environment.

690. Seminar in Financial Management. (3:3:0) (Offered alternate semesters) Prerequisite: consent of instructor.

691. Seminar in Financial Institutions. (3:3:0) (Offered alternate semesters) Prerequisite: consent of instructor.

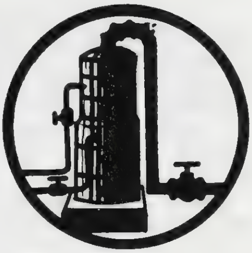
Students and instructor in business management seminar

Chemical Engineering Science

Professors: Barker, Christensen, Pope (chairman, 176 ELB).

Associate Professors: Coates, Hanks, Horton, Smoot.

Assistant Professors: Clark, Glassett.



The Department of Chemical Engineering offers professional training leading to the degrees of Bachelor of Engineering Science (B.E.S.), Master of Science (M.S.), and Doctor of Philosophy (Ph.D.). The curriculum is fully accredited by the Engineers Council for Professional Development as a professional engineering curriculum.

A principal activity of the professional chemical engineer is to change raw materials into useful and valuable products, utilizing a basic knowledge of chemistry, physics, mathematics, and economics. Using this knowledge he conducts research on processes and designs, builds, and operates complex manufacturing plants. Graduates in chemical engineering obtain positions in virtually every industry. They are involved in activities ranging from pollution control to rocket propellant manufacturing. In addition to the basic chemical and petroleum industries, graduates are employed in atomic energy production, bio-engineering, space technology, and many other fields. Because of this broad background in chemistry, physics, and mathematics, the chemical engineer often assumes the role of a supervisor, a technical representative, or a manager. This training also qualifies him particularly well for a career in research and development.

The prescribed courses of study in chemical engineering, in addition to basic and advanced mathematics, physics, and chemistry, include heat transfer, thermodynamics, fluid dynamics, chemical reaction kinetics and catalysis, engineering materials, such separation processes as distillation and extraction, and plant design. More specialized courses, such as process dynamics and control, and nuclear engineering and engineering creativity, are offered at the graduate level.

Students who desire to be technicians or technologists rather than engineers should consult the offerings of the College of Industrial and Technical Education.

Entrance Requirements

Entrance requirements are similar for all branches of engineering and are specified in detail in the section of this catalog devoted to a description of the College of Physical and Engineering Sciences, page 112.

Grade Requirements

To maintain standing and to continue in the Chemical Engineering Science Department, a student must maintain a cumulative grade-point average of 2.0 or better in each of the following subjects: mathematics, chemistry, and physics. Students not maintaining this average will be placed on probationary status in the department.

In order to graduate, a student must maintain an overall average of at least 2.0. No more than three hours of "D" credit in the major department will be counted toward graduation.

Course Requirements

Engineering students are subject to all of the general education requirements listed in this catalog on page 17, except that the biological science requirements may be reduced to four semester hours instead of the six semester hours specified. Maximum advantage should be taken of the four hours of religion credit given for attending devotional assemblies for a period of four years.

Engineering students may register for 18 hours per semester exclusive of physical education, forum and devotional assemblies, without obtaining special permission.

The courses required for the B.E.S. and M.S. degrees in chemical engineering are summarized in the following tabulation.

Suggested Sequence of Courses Leading to the B.E.S. and M.S. Degrees in Chemical Engineering

Freshman

	F	S
Ch.E. 100	1	
Chem. 111, 112	5	5
Math. 112, 113	4	4
Engl. 111, 112	3	3
Health 130 (a)	2	
History 170 (a)		3
Undergrad. Relig. 121, 122	2	2
Dev. assy.	½	½
P.E.	½	½
	18	18

Sophomore

	F	S
Ch.E. 273		3
Chem. 351, 352	3	3
Chem. 353		1
Physics 121, 122	3	3
Math. 214, 321	3	3
Approved elect.	2	
Humanities	3	
E.E. 307		1
Undergrad. relig.	2	2
Dev. assy.	½	½
Dev. assy.	½	½
	17	17

Taken in Summer or by Extension

Undergrad. relig.	4
Humanities	3
Approved elect.	2
Econ. 111	3
	12

Junior

	F	S
Ch.E. 374, 376	3	3
Ch.E. 375, 377	2	1
Ch.E. 373		2
Ch.E. 378		3
Chem. 461, and 462, 464	3	5
C.E. 201		3
Math. 323	3	
Engl. 316	2	
Dev. assy.	½	½
Physics 221	4	
	17½	17½

Senior

	F	S
Ch.E. 476	3	
Ch.E. 477	1	
Ch.E. 474	3	
Ch.E. 478	3	
Ch.E. 464		3
Ch.E. 491	½	½
Ch.E. 499	1	2
E.E. 301	2	
Bio. sci.		4
Soc. sci.		3
Approved elect. (b)	4	5
Dev. assy.	½	½
	18	18

Master of Science Degree
5th year (c)

	F	S
Ch.E. 685	2	
Ch.E. 673		3
Ch.E. 674	3	
Approved elect.		3
Ch.E. 699	6	2
Ch.E. 677	2	
Ch.E. 681		3
Ch.E. 691A,B	1	1
Supporting subj.	3	3
	17	15

NOTES:

(a) It is recommended that these courses be taken by special examination.

(b) Qualified students may apply for graduate credit for Ch.E. 499, which would become Ch.E. 699, and for 3 hours of approved elective at the graduate level. This credit will apply toward graduate degree requirements.

(c) Students with full-time teaching assistantships may take only 9 hours per semester. This will require academic work in the summer following the fifth year.

List of Approved Elective Courses

Business: Bus. Mgt. 321, 340, 347; Econ. 112.
Applied Math.: Math. 311, 314, 322, 372, 435, 541, 542; Stat. 332, 336, 337.
Chemistry: Chem. 504, 514, 581.
Nuclear Engr.: Phys. 315, 316, 551, 552.
Aerospace Engr.: M.E. 413, 422, 541.
General: C.E. 201, 303, 304; E.E. 301, 304; Physics 321, 322, 342.

Courses

100. Introduction to Chemical Engineering. (1:1:0) F.
Introduction to the profession; lectures on professional development, slide rule; and field trips to selected chemical industries. Individual project work.

273. Chemical Process Principles. (3:3:0) S. Prerequisites: Chem. 106 or 112 Physics 121, concurrent registration in Physics 122.
Christensen, Glassett, Pope
Stoichiometry, material balances, energy balances, thermochemistry, thermophysics. Application to chemical processes.

373. Chemical Engineering Thermodynamics. (2:2:0) S. Prerequisites: Ch.E. 273, Math. 323, Chem. 461.
The first and second laws of thermodynamics and their application to the behavior of real fluids. Thermodynamic properties of materials, potential functions, and chemical equilibria.

374. Introduction to Transport Phenomena. (3:3:0) F. Prerequisites: Ch.E. 273, Math. 323.
An introduction to fluid mechanics and heat transfer emphasizing the analogies between these two transport processes. Basic molecular and turbulent theory as well as applications to practical steady-state and transient-state problems.

375. Laboratory for Transport Phenomena. (2:1:3) F. Prerequisite: concurrent registration in Ch.E. 374. Glassett
Laboratory work with experiments to cover the material presented in Ch.E. 374. Emphasis will be placed on data taking, data reduction, and on reporting.

376. Unit Operations. (3:3:0) S. Prerequisite: Ch.E. 374.
Additional topics in heat transfer and an introduction to mass transfer theory. Applications of transport phenomena theory to chemical engineering unit operations.

377. Unit Operations Laboratory. (1:0:3) S. Prerequisite: concurrent registration in Ch.E. 376. Glassett
An integrated laboratory course to present experiments covering the material presented in Ch.E. 376; emphasis will be on data taking, data reduction, and report writing.

378. Science of Engineering Materials. (3:3:0) F.S. Prerequisites: Chem. 106 or 112. Barker, Clark, Hanks
Principles which underlie the behavior and govern the properties of materials as related to their engineering applications.

464. Chemical Engineering Plant Design and Economics. (3:3:0) S. Prerequisite: Ch.E. 376. Glassett, Pope

Design of chemical engineering machinery, plant and/or processes requiring the application of unit operations, chemical process principles, and economic analysis.

474. Chemical Engineering Thermodynamics. (3:3:0) F. Prerequisite: Ch.E. 373.

The first and second laws of thermodynamics and their applications to the behavior of real fluids. Thermodynamic properties of materials, potential functions, and chemical equilibria.

476. Unit Operations. (3:3:0) F. Prerequisite: Ch.E. 376. Barker, Clark

Fundamentals of stage operations. Application of transport principles to such mass transfer operation as humidification, drying, crystallization, distillation, extraction, and absorption.

477. Unit Operations Laboratory. (1:0:3) F. Prerequisite: concurrent registration in Ch.E. 476. Glassett

Laboratory work to accompany Ch.E. 476. Unit Operations. Data taking data reduction, and report writing will be emphasized.

478. Chemical Engineering Kinetics. (3:3:0) F. Prerequisites: Ch.E. 373 and Chem. 462. Christensen, Horton, Pope

Theories and applications of chemical kinetics in catalytic and noncatalytic reacting systems.

479. Process Dynamics and Unit Processes. (3:3:0) S. Prerequisites: Math. 323 or consent of instructor.

A fundamental study of the measurements and control of process variables. The characteristics of processes, controllers, measuring elements, and the application of closed loop techniques.

491A,B. Seminar. (½:1:0)

Group discussions of technical subjects related to the chemical engineering profession. Participation by advanced students, usually reporting on thesis subjects, by faculty, and invited guests. Required of all majors in fourth or fifth year.

498. Special Problems. (1-3:Arr.:Arr.) F.S.Su. Prerequisite: consent of instructor.

499. Chemical Engineering Undergraduate Thesis. (1-3:Arr.:Arr.) F.S.Su.

An undergraduate thesis is required of all students graduating from the department. Minimum of three semester hours required.

671. Advanced Heat Transfer. (2:2:0) F.

An advanced treatment of the transfer of heat.

672. Advanced Fluid Flow. (2:2:0) F. Barker, Hanks, Smoot

An advanced treatment of the flow of fluids.

673. Advanced Transport Phenomena. (3:3:0) F. Hanks, Smoot

Derivation of general differential equations of conservation of mass, heat, and momentum. Theory and method of estimating transport coefficients. Applications of general conservation equations to various transport phenomena.

674, 675. Advanced Thermodynamics I, II. (3:3:0 ea.) F.S. Christensen, Clark

Advanced applications of thermodynamics to chemical engineering problems. Estimation and correlation of thermodynamic properties; chemical equilibria, and introduction to statistical and irreversible thermodynamics.

677. Creative Skills in Chemical Engineering. (2:2:0) S. Christensen, Horton, Pope

Application of creativity and prior course work to the solution of openend problems currently being encountered in the frontiers of chemical engineering. Introduction to critical path scheduling and operations research.

681. Kinetics and Catalysis. (3:3:0) S. Christensen, Horton, Pope
Application of fundamental theories of reaction kinetics, diffusion, and absorption to reacting systems.

682. Nuclear Engineering. (2:2:0) Arr. Barker
Reactor design including reactor physics, heat transfer, engineering materials, instrumentation, and control.

683. Advanced Plant Design. (2:2:0) Arr. Glassett
Comprehensive design of a chemical plant including feasibility and market surveys, economic evaluation, raw materials, plant layout, design, instrumentation, materials of construction.

684. Advanced Process Dynamics and Control. (2:2:0) Arr. Barker, Clark
Dynamics of chemical processes, the measurement of process variables, and the control of processes using feed-back control. Computer control and optimization techniques.

685. Chemical Engineering Analysis. (2:2:0) F. Hanks
Mathematical analysis of selected topics in unit operations and processes with emphasis on obtaining solutions of practical value.

686. Distillation. (2:2:0) Arr. Clark, Smoot
Binary and multicomponent distillation, prediction of equilibrium relationships, extractive and azeotropic distillation, application of computers to complex distillation column design; instrumentation.

687. Chemical Engineering Economics. (2:2:0) Arr. Christensen, Pope
An investigation of the basic economic principles which govern the operations of chemical industry.

688. Special Problems. (Arr.) Arr.
Investigation of problems of special interest in the field of chemical engineering.

691A,B. Seminar. (1:1:0) F.S. (For M.S. students)
Group discussions of advanced technical subjects related to chemical engineering. Presentations by graduate students. Also presentations by faculty members and invited guests.

697. Research for Master's Students. (2-6:0:0) F.S.Su.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

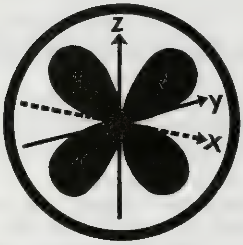
788. Selected Topics in Chemical Engineering. (1-3:Arr.:Arr.) Arr.

791A,B,C,D. Seminar for Doctoral Students. (1:1:0 ea.)

797. Research for Doctoral Students. (Arr.) Arr.

799. Dissertation for Doctoral Students. (Arr.) Arr.

Chemistry



Professors: Anderson, Blackham, Broadbent, Bryner, Butler, Gubler, Goates, Hall, Izatt, Nelson (chairman, 225 ESC), Snow, Swensen.

Associate Professors: Bills, Cluff, Hawkins, Mangum, Ott, Peterson, Wilson, White.

Assistant Professors: Bradshaw, Jensen, Pack, Paul, Smith, Thorne, Wing.

Superintendent of Laboratories: Meibos.

Graduates in chemistry obtain positions in virtually every industry. Graduates with imagination and intellectual curiosity are in especial demand to fill research positions. The curriculum in chemistry is rigorous but intellectually rewarding.

A student who wishes to graduate with a major in chemistry certified by the American Chemical Society must successfully complete the following courses: Chem. 111, 112, 351, 352, 354, 355, 461, 462, 464, 491, 514, 521, 594 (A, B), 504 or 551, plus additional credit chosen from the 500 series courses offered by the department to make a total of 43 hours' credit in chemistry. In addition, Math. 112, 113, 214; Physics 121, 122, 221; and one year of college credit (or its equivalent) in French, German, or Russian are required. Additional courses in math. and physics are highly recommended. If a student is not prepared to take Chem. 111 upon his enrollment, he should take Chem. 105, followed by either 106 and 223 or by 111 and 112.

A student who desires a major in chemistry not certified by the American Chemical Society (premedical, predental, chemistry teaching majors, etc.) must successfully complete the following courses: either of the sequences (Chem. 111, 112 or Chem. 105, 106, 223) and 351, 352, 353 (2 hrs.), 461, 462, 464, 491, 594 (A, B), and either 514 or 521. The total credit-hour requirement under this option is 30 hours with 521 and 31 hours with 514. Chemistry teaching majors should see the Teacher Education Section of this catalog for specific requirements for teacher certification.

No more than three hours of "D" credit in chemistry will be counted in meeting the requirements of either of the majors in chemistry. The final 10 hours of chemistry credit required for the B.S. degree must be taken at BYU.

For details concerning the program for graduate study leading to the M.S. and Ph.D. degrees in chemistry, students should consult the Graduate School Catalog.

Suggested Curriculum

I

	F		S
Chem. 111	5	Chem. 112	5
Math. 112 (or 111)	4-5	Math. 113 (or 112)	4
Engl. 111	3	Engl. 112	3
Undergrad. relig.	2	History 170	3
Health 130	2	Undergrad. relig.	2
P.E.	½	P.E.	½
Dev. assy.	½	Dev. assy.	½
	17-18		18

II

	F		S
Chem. 351	3	Chem. 352	3
Math. 214 (or 113)	3-4	Chem. 354	2
Physics 121	3	Math. 321 (or 214)	3
Undergrad. relig.	2	Physics 122	3
Gen. ed. & electives	5	Undergrad. relig.	2
P.E.	½	Gen. ed. & electives	3
Dev. assy.	½	P.E.	½
		Dev. assy.	½
	17-18		17

III

	F		S
Chem. 355	2	Chem. 462	3
Chem. 461	3	Chem. 464	2
Physics 221	4	Chem. 491	1
Undergrad. relig.	0**	Physics 222	4
German 101	4	German 102	4
Gen. ed. & electives	4	Undergrad. relig.	2
Dev. assy.	½	Dev. assy.	½
	17½		16½

IV

	F		S
Chem. 521, 522	4	Chem. 504 (or 551 in fall)	2
Chem. 594A	½	Chem. 514	3
Advanced chem.	3*	Chem. 594B	½
Chem. 551 (or 504 in spring)	3-4	Advanced chem.	2*
Undergrad. relig.	2	Undergrad. relig.	0**
Gen. ed. & electives	4	Gen. ed. & electives	9
Dev. assy.	½	Dev. assy.	½
	17-18		17

*Chosen from 500 series courses in chemistry.
**Substitution of devotional assembly credit for 2 hours of undergraduate religion.

Courses

97. General Chemistry Review. (0:3:0) F.S. Evening Classes only.

100. Elementary College Chemistry. (3:3:0) F.S.Su. Home Study also. (G-PS)

An introduction to the structure of matter and the chemical consequences of that structure. For nonscience majors in partial fulfillment of the general education requirement for graduation.

101. Introductory Chemistry. (4:3:3) F.S. (G-PS m)

General principles of inorganic chemistry for students outside the physical sciences whose discipline requires a supporting background in chemistry.

105, 106. General College Chemistry. (4:4:0, 4:2:6) F.S.Su. (G-PS m) Prerequisites: concurrent registration in Math. 105 or 111 or its equivalent. Recommended: high school chemistry or physics.

A standard one-year sequence of courses in the principles of chemistry for students of the physical and biological sciences, engineering, and the preprofessional medical programs.

111, 112. Principles of Chemistry. (5:4:6 ea.) F.S. (G-PS m) Prerequisites: completion of or concurrent registration in Math. 105 or 111; completion of one year of high school chemistry. Recommended: one year of high school physics.

A course in the fundamentals of chemistry for those students who have had superior training in high school physical sciences. Quantitative chemical measurement and qualitative analysis are emphasized in the laboratory.

251. **Introductory Organic Chemistry.** (3-4-5) F,S. (G-PS II) Prerequisite: Chem. 101 or equivalent.

General principles of organic chemistry for students outside the physical sciences whose discipline requires a supporting background in chemistry.

222. **Quantitative and Qualitative Analysis.** (3-3-5) F,S,Su. (II) Prerequisite: Chem. 106 or consent of instructor.

A course emphasizing the principles of chemical equilibrium, quantitative chemical measurements, and qualitative detection of selected chemical elements.

301. **Fundamentals of Chemistry for General Science Teachers.** (2-2-3) Su.

Restricted to experienced teachers of general science or similar subjects.

351, 352. **Organic Chemistry.** (3-0-3 ea.) F,S,Su. Prerequisite: Chem. 106 or 112.

353. **Organic Chemistry Laboratory.** (1-3(3-4)) F,S,Su. Prerequisite: Chem. 351.

For nonchemistry majors.

354, 355. **Organic Chemistry Laboratory.** (1-3(3-4) ea.) F,S,Su. Prerequisites: Chem. 351 and 352 respectively.

384. **Introductory Physiological Chemistry.** (3-0-3) S. (II) Prerequisite: Chem. 251 or 351.

385. **Physiological Chemistry Laboratory.** (0-6-3) S. (II) Prerequisite: concurrent registration in Chem. 384.

461, 462. **Physical Chemistry.** (3-0-3 ea.) F,S. Prerequisites: Chem. 112 or 222, Physics 202, and Math. 122. Chem. 464 must be taken concurrently with Chem. 462.

464. **Physical Chemistry Laboratory.** (0-6-2) S. Prerequisite: concurrent registration in Chem. 462.

491. **Chemical Literature and Technical Writing.** (1-0-1) S.

504. **Instrumental Analysis.** (2-3-3) F,S. Prerequisite: Chem. 461.

513. **Inorganic Chemistry.** (3-0-3) S.

514. **Inorganic Syntheses.** (0-6-2) S. (Offered 1969-70 and alternate years.)

521. **Analytical Chemistry.** (2-0-2) F. Prerequisites: Chem. 462, 464.

522. **Analytical Chemistry Laboratory.** (0-6-2) F.

524. **Quantitative Microanalysis.** (1-3-2) S. (Offered 1968-69 and alternate years.)

551. **Systematic Identification of Organic Compounds.** (1-4(2-3-6)) F.

552. **Advanced Organic Chemistry.** (3-0-3) S.

561, 562. **Chemical Thermodynamics.** (3-0-3) F. (2-0-2) S. Prerequisite: Chem. 462.

564. **Nuclear and Radiochemistry.** (2-3-3) S. (Offered 1969-70 and alternate years.)

591. **Biochemistry.** (3-0-3) F. Prerequisite: Chem. 352.

584. Biochemistry Laboratory. (2:0:6) F. Prerequisite: completion of or concurrent registration in Chem. 581.

594A,B,C,D,E,F,G,H. General Seminar. (1:1:0 ea.) Required of all senior and graduate students in chemistry every semester in residence.

598. Special Problems. (Arr.) Arr.
Registration by permission.

600. Directed Teaching in Chemistry. (1:1:0) F,S.

601. Geometry of Atoms and Molecules. (3:3:0) F.

611. Chemistry of Main Group Elements. (3:3:0) S. (Offered 1969-70 and alternate years.)

612. Chemistry of Transitional Elements. (3:3:0) S. (Offered 1968-69 and alternate years.)

658. Organic Syntheses. (3:1:6) F.

663. Reaction Kinetics. (2:2:0) F. (Offered 1969-70 and alternate years.)

681. Biochemistry of Lipids. (2:2:0) F.

682. Biochemistry of Nucleic Acids. (3:3:0) S.

683. Biochemistry of Carbohydrates. (2:2:0) S.

684. Biochemistry of Proteins. (3:3:0) F.

697. Master's Candidate Research. (Arr.) Arr.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.)

719. Selected Topics in Inorganic Chemistry. (1-3:1-3:0) Arr.

725. Electro-Analytical Chemistry. (3:3:0) F. (Offered 1968-69 and alternate years.)

729. Selected Topics in Analytical Chemistry. (1-3:1-3:0) Arr.

751. Mechanisms of Organic Reactions. (3:3:0) F.

757. Chemistry of Natural Products. (3:3:0) S. (Offered 1969-70 and alternate years.)

758. Heterocyclic Compounds. (3:3:0) S. (Offered 1968-69 and alternate years.)

759. Selected Topics in Organic Chemistry. (1-3:1-3:0) Arr.

761, 762. Statistical Mechanics. (3:3:0 ea.) F,S. (Offered 1968-69 and alternate years.)

765, 766. Quantum Chemistry. (3:3:0 ea.) F,S. (Offered 1969-70 and alternate years.)

769. Selected Topics in Physical Chemistry. (1-3:1-3:0) Arr.

789. Selected Topics in Biochemistry. (1-3:1-3:0) Arr.

797. Doctoral Candidate Research. (Arr.) Arr.

799. Dissertation for the Ph.D. Degree. (Arr.) Arr.

Child Development and Family Relationships

Professors: Cannon, Knowles, Moss, Porter.

Associate Professors: Laws (chairman, 233-A SFLC), Rollins.

Assistant Professors: Allred, Barlow, Mead, Price, Vance.

Instructors: Anderson, Larsen, Taylor, Thomas, Tyndall, Zollinger.

The Department of Child Development and Family Relationships emphasizes two areas of knowledge: child development and family relations. In the child development area, the basic developmental and behavioral characteristics of the child are studied from conception to adulthood. In the family relations area, students gain knowledge and insight concerning dating, courtship, marriage, and family behavior throughout the family life cycle. Courses are also selected from other departments in order to enrich and broaden the student's understanding of human development.

Vocational Goals

The **CDFR composite** program prepares a graduate to teach in nursery schools, kindergarten and the early grade levels in elementary schools. Further job opportunities are available in day-care centers and government Headstart programs.

The option of **child development** provides opportunities for students who desire to teach in nursery schools or work in day-care centers, government Headstart programs and community social services. In addition the student may, through proper selection of courses, prepare himself for graduate work in child development.

The **family relationships** option, depending on the selection of courses, will provide the student with a foundation for graduate studies leading to professional opportunities in teaching, research, community education programs, marriage and family counseling, and extension services. The student who completes a bachelor's degree may find vocational opportunities in community social services, government and community youth programs in addition to vocations where a knowledge of human relations is required.

Preparation for Family Living

The study of child development and family relationships from conception to old age also provides the insight, understanding, and skills necessary for competence in marriage and family relationships. A student may, therefore, desire to combine his interest in preparing to serve families professionally with personal preparation to become an effective family member through a major in child development and family relationships.

Human Development Laboratories

The BYU Human Development Laboratories are among the most modern in the nation. Through the laboratories of the University and the facilities of the community, opportunities are provided for the observation of various aspects of human development from infancy through old age.

Affiliation with Merrill-Palmer Institute

Selected junior and senior students in the department have the opportunity to enhance their professional training by attending one semester at the Merrill-

Palmer Institute of Human Development and Family Life at Detroit, Michigan. Students who are interested should contact their adviser and the department chairman.

Requirements for a Minor in CDFR

For a minor in child development and family relationships, a minimum of 14 credit hours selected from the departmental offering.

Requirements for a Major in CDFR

The department provides three options for major students. The program options include:

1. CDFR-Elementary Education Composite
2. Child Development
3. Family Relationships

The **CDFR composite** program requires the student to take CDFR 210, 361, 492, and the 422 laboratory experience. The student then has from 13 to 15 hours of electives in the department. A student must take from 23-25 hours in the department to graduate. The student also completes the teacher education requirements for certification at the elementary level. A complete program worksheet is available at the department office (233 SFLC).

The **child development** option requires the following sequence of courses: CDFR 210, 410, 422, and 492. To graduate a student must take 25 hours in the department. The following courses are suggested electives for this option: CDFR 305, 312, 360, 361, and 450.

The **family relationships** option requires the following sequence of courses: CDFR 360, 361, 460, and 492. To graduate a student must take 25 hours in the department. The following courses are suggested electives for this option: CDFR 210, 261, 322, 440, 461, and 450.

All students are required to take at least one course from each of the following departments in the College of Family Living: Clothing and Textiles, Food and Nutrition, Housing and Home Management. This requirement is designed to give the student an introduction to the philosophy of departments within the College of Family Living.

Graduate Program

The Department of Child Development and Family Relationships offers training leading to a Master of Science degree in either child development or family relationships. It offers training leading to a Doctor of Philosophy degree in three fields: child development, family relationships, and marriage and family counseling. For information concerning these programs, consult the Graduate School Catalog or write to the department office (233 SFLC).

Courses

210. Child Development. (3:3:1) F.S.Su. (G-SS m)
Consideration of the growth and development of the child and his relationships with his family, peers, and teachers from infancy through adolescence. One hour observation per week as part of preparation.

261. The Latter-day Saint Family. (2:2:0) F.S.Su. (m) Staff
Place of the family in LDS doctrine and philosophy, together with application of basic religious principles to marriage and family relationships. A comparison of LDS and non-LDS families in time and space.

305. Development in Infancy. (3:2:2) F.S. (m) Prerequisite: CDFR 210. Larsen
The physical, cognitive, and social developmental characteristics during the first 18 months with implications for guidance and care in the family unit.

312. Principles of Child Guidance. (2:2:0) F.S. (m) Prerequisite: CDFR 210. Larsen

Application of knowledge and understanding of child behavior and psychodynamics of family interaction to guidance of children. Behavior and guidance principles are studied directly in the human development laboratories. Helpful to parents and prospective parents.

322. Creative Experiences with Children. (3:2:6) F.S.Su. (m) Prerequisite: CDFR 210; application one semester in advance required. Tyndall

Designed to promote increased self-understanding, develop skills in working with children, and gain experiences in the use of creative play materials through participation in the human development laboratories. Lab fee required.

323. Organization and Planning for Preschool Programs. (3:3:0) F.S.Su. (m) Prerequisite: CDFR 210; application required semester in advance. Barlow, Taylor

Consideration of factors involved in the development of preschool programs. Study of essential procedures in preschool planning including housing, curriculum, equipment, guidance, health protection, and food service. Field trip.

360. Achieving Success in Marriage. (3:3:0) F.S.Su. (G-SS m) Staff

Consideration of maturity, love, compatibility, conflict, specific areas of adjustment in marriage, parent-child relationships, and effective management of family resources.

361. Family Relationships. (3:3:0) F.S.Su. (G-SS m) Staff

Consideration of the interaction and interpersonal relations through the various stages of the family life cycle and the influence of the family on its members in developing values, goals, attitudes, and patterns of behavior.

410. Advanced Child Development. (3:2:2) F.S.Su. (m) Prerequisites: CDFR 210, 361; Psych. 111 or Sociol. 111. Knowles, Rollins, Vance

Physiological, intellectual, social and emotional development of the preschool and school-age child. Two hours' observation and discussion of preschool and school-age children required each week.

422. Methods and Teaching Experiences in the Human Development Laboratory. (4:2:8) F.S.Su. Application is required semester in advance. Staff

Experience in teaching and supervising a group of nursery school children. Lab fee required.

440. Family Life in the Middle and Later Years. (2:2:0) (m) S.Su. Prerequisite: CDFR 361. Cannon, Knowles

Adjustments in middle and later years revolving around physical, emotional, and social changes. Emphasis is placed upon needs that arise from changes in family relationships, living arrangements, and employment.

450. Modifying Family Behavior: Principles and Practices. (3:3:0) F.S.Su. Prerequisites: CDFR 210, 361, or consent of instructor. Allred, Mead

Study of principles and practices in altering disturbing behavior patterns of children within the framework of the family. Observations of family counseling will be provided.

460. Marriage and Family Interaction. (3:3:0) (m) F.S.Su. Prerequisites: CDFR 360, 361; Sociol. 111 or Psych. 111. Cannon, Moss

An advanced appraisal of courtship, marriage relationships, and family interaction. A professional course designed primarily for majors in CDFR and related fields.

461. The Family and the Law. (3:3:0) S. (m) Prerequisite: CDFR 360 or 361.

Consideration of legal aspects of marriage and family life such as marriage statutes, property rights, separation and divorce, adoption, custody of children, wills, etc.

492. Seminar in Theory and Concepts. (2:2:0) F.S.Su. (m) Cannon, Knowles, Laws, Porter

Evaluation and integration of basic theories and concepts in CDFR. Designed especially for senior students in CDFR.

510. Physical and Intellectual Development of Children. (2:2:0) F.Su. (m) Prerequisite: CDFR 410. Price

A systematic survey of current theories and research on physical and intellectual development from conception through adolescence.

511. Emotional and Social Development of Children. (2:2:0) F.Su. (m) Prerequisite: CDFR 410. Knowles, Rollins

A systematic survey of current theories and research on emotional and social development from conception through adolescence.

520. Workshop in Child Development. (2:2 wks.; 8 hrs./day:0) Su. Prerequisite: consent of department chairman. Knowles

Intensive study of application of principles of child development and child guidance.

560. Workshop in Family Relationships. (2:2 wks.; 8 hrs./day:0) Su. Prerequisite: consent of department chairman.

Intensive study of application of principles of family relationships.

566. Materials and Procedures in Family Life Education. (2:2:0) Su. Prerequisite: consent of instructor. Moss

An evaluation of materials, resources, and procedures in teaching family life education in the high school.

570. Community and Professional Responsibilities to Children and Families. (2:2:0) S. (m) Prerequisites: CDFR 410 or 460. Knowles, Moss

Acquaintance with resources of the community as they relate to the welfare of children and families. A consideration of the responsibilities of professional persons working with children and families.

575. Parent Education. (2:2:0) S. (m) Prerequisite: CDFR 410 or 460. Knowles

Basic principles in organization of parent study programs. Formulation and presentation of program for parents.

580. Introduction to Marriage and Family Counseling. (2:2:0) F.Su. (m) Prerequisite: consent of instructor. Allred, Laws, Mead

Theories and techniques used in marriage and family counseling. Consideration of individual and group counseling as it pertains to the family.

590. Readings in Child Development and Family Relationships. (1-2:1-2:0) F.S.Su. (m) Prerequisites: consent of instructor and CDFR 410 or 460. Cannon, Knowles, Laws, Moss, Rollins

Discussions and reports of current readings in this field. Open to students who have completed fifteen hours of courses in child development and family relationships.

595. Special Topics in Child Development and Family Relationships. (1-2:1-2:0) F.S.Su. (m) Prerequisites: consent of instructor and CDFR 410 or 460. Cannon, Knowles, Laws, Moss, Rollins

Individual study for qualified students majoring in child development and family relationships upon consultation with the instructor and the chairman of the department.

596. Research Problems and Methods in Family Relationships. (2:2:0) F. (m) Prerequisite: CDFR 460. Cannon, Moss, Rollins

Analysis of strategic research areas in family relationships and research methods pertinent to their exploration. Students will formulate a research project.

611. Current Concepts and Research in Child Development. (2:2:0) F. Prerequisite: CDFR 410. Rollins, Vance

An intensive investigation of theoretical frameworks, models, and concepts of dominant contemporary theorists in child development.

616. **Measurement Techniques in Child Development.** (2:2:1) S. Prerequisites: CDFR 410, 510; Psych. 450. Rollins

650. **Practicum in Family Counseling.** (3:2:2-4) F.S.Su. Prerequisites: consent of instructor and CDFR 450, 580. Allred, Mead
Development of skills in family counseling techniques. Experience in the organization and administration of family counseling centers.

660. **Dynamics of Parent-Child Interaction.** (2:1:2) S. Rollins
Development and testing of conceptual models of parent-child interaction.

661. **Dynamics of Family Interaction.** (2:2:0) S. Prerequisites: CDFR 360, 460. Moss, Rollins

662. **Dynamics of Marital Interaction.** (2:2:0) F.S. Prerequisite: CDFR 460.
Systematic study of the research and theory of man-woman relationships in marriage.

663. **Critical Problems in Family Life.** (2:2:0) F. Prerequisite: CDFR 361. Cannon, Rollins

664. **Current Concepts and Research in Family Relationships.** (2:2:0) F. Cannon, Moss, Rollins

667. **Problems of Teaching Marriage and Family Relationships in College.** (2:2:0) S.Su. Cannon, Laws, Moss

685. **Developmental Use of Play Experiences.** (2:2:0) S. Prerequisite: consent of instructor.

692, 693. **Seminar.** (2:2:0 ea.) F.S. Cannon, Knowles, Laws, Moss, Rollins

697. **Independent Research.** (1-3:1-3:0) F.S. Cannon, Knowles, Laws, Moss, Rollins

699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su. Cannon, Knowles, Laws, Moss, Rollins

750. **Advanced Practicum in Family Counseling.** (4:1:6-10) F.S.Su. Prerequisites: consent of instructor, and CDFR 650, 780. Allred, Mead
Independent counseling experiences within the scope and purpose of family counseling centers. The student serves as a senior counselor.

760. **Concepts and Theories of Marriage and the Family.** (3:3:0) F. Moss

780. **Theories of Marriage and Family Counseling.** (2:2:0) F. Prerequisites: CDFR 580; consent of instructor. Allred, Laws, Mead

781. **Case Analysis in Marriage Counseling.** (2:2:0) S. Prerequisite: CDFR 780. Allred, Laws, Mead

785, 786. **Practicum in Marriage Counseling.** (4:1:6-10) F.S. Prerequisites: CDFR 780, 781; consent of instructor. Laws

792. **Seminar in Marriage Counseling.** (2:2:0) S.Su. Laws

794. **Special Topics in Child Development.** (1-2:1-2:0) F.S.Su. Knowles, Rollins

795. **Special Topics in Family Relationships.** (1-2:1-2:0) F.S.Su. Cannon, Laws, Moss

797. **Doctoral Candidate Research.** (2-4:2-4:0) F.S.Su. Cannon, Knowles, Laws, Moss, Rollins

799. **Dissertation for the Ph.D. Degree.** (Arr.) F.S.Su. Cannon, Knowles, Laws, Moss, Rollins

Civil Engineering Science

Professors:	C. Barton (chairman, 107 ELB), J. Barton, Enke, Firmage, Fuhriman, Rollins.
Associate Professors:	Budge, Christiansen, Karren, Wilkes.
Assistant Professors:	Calder, Goodwin, Naylor, Wilson.
Instructor:	Thurgood.

The Department of Civil Engineering offers professional programs leading to the degrees of Bachelor of Engineering Science in civil engineering, Master of Civil Engineering, and Master of Science. For details concerning programs for graduate study leading to the M.S., M.C.E., and Ph.D. degrees in civil engineering, students should consult the Graduate School Catalog. The curriculum is accredited by the Engineers Council for Professional Development (ECPD) as a professional engineering curriculum.

Course work is offered in the areas of solid mechanics and materials, soil mechanics and foundation engineering, structural mechanics and structural engineering, highway and transportation engineering, and water resources, including hydrology, hydraulics, and sanitary engineering. The professional education at BYU emphasizes a strong science foundation in physics, chemistry, and mathematics. Application of mathematics is found early in the program through a correlation with physics beginning in the freshman year. An understanding of civil engineering problems on an elementary but fundamental level is afforded the student in the freshman and sophomore years. The student is also provided with a well-balanced program of social studies, religion, biological sciences, and humanities.

The extensive background of the faculty will prove valuable to those who wish to undertake special projects in their undergraduate work or research topics in their graduate work. Seminar work and participation in technical meetings sponsored by student organizations provide a rich beginning to a career in civil engineering. Professional opportunities upon graduation in this field exist in research and development, design, construction, sales engineering, teaching, business management, and many other divisions.

Entrance Requirements

For both the general entrance requirements of the University and the particular requirements specified for the College of Physical and Engineering Sciences, see those sections of this catalog.

Grade Requirements

To receive the B.E.S. degree in civil engineering a student must complete courses satisfying University and departmental requirements including a minimum cumulative grade-point average of 2.0 (C). A cumulative average grade of "C" or better must be maintained in all advanced mathematics and engineering subjects; otherwise, the student is placed on probationary status in the department. No more than six hours of "D" credit in subjects of the major department will be counted toward graduation. A student must receive an average grade of "C" or better in each area of chemistry, mathematics, and physics.

General Education Requirements

Engineering science students are subject to all of the general education requirements listed in this catalog, with the following exceptions and suggestions:

(1) The biological science requirement may be reduced to four semester hours instead of the six semester hours specified. Civil engineers will meet the biological sciences required by taking Micro. 121 and 381.
(2) Maximum advantage should be taken of the four hours' religion credit given for attending devotional assemblies for a period of four years.
(3) It is particularly recommended that the student take Econ. 101, Psych. 111, or Sociol. 111 in satisfying the social science group requirements.

Requirements for Bachelor of Engineering Science Degree

The student first enrolls in the general curriculum of civil engineering and continues in a prescribed technical program for three years. In the fourth year, he has the opportunity of selecting technical electives to strengthen a chosen field of interest. Also in the fourth year, the student may elect to begin study for the Master of Science or Master of Civil Engineering degree.

All students must satisfy the general education requirements of the University, and the departmental requirements, including 12 hours of technical electives, in order to earn the B.E.S. degree. This will normally take the student five academic years to complete. The departmental course requirements are given in the technical flow chart herein. This chart also indicates the technical prerequisite requirements for each course. Single connecting lines indicate prerequisites and double connecting lines indicate corequisites. A typical sequence of courses for the standard five-year program is also given herein.

The student who is well prepared in high school with a sufficient background in graphics and mathematics may earn a B.E.S. degree in four years with some summer work or possibly some extension division work. By examination he may be excused from Health 130, History 170, and C.E. 101 (graphics). If the student has taken in high school an adequate course in college algebra and trigonometry, he may begin at BYU in the calculus sequence with Math. 112.

Engineering students may register for 18 hours, exclusive of physical education, forum, and devotional, in any one semester without obtaining special permission.

NOTE: The required 12 hours of technical electives (T.E.), may be selected from the following C.E. courses: 422, 442, 451, 505, 513, 527; also Ch.E. 378 and Engl. 316, or other courses as approved by petition.

Typical Civil Engineering Bachelor of Engineering Science Program

First Year

	F	S
Engl. 111, 112	3	3
Math. 112, 113	4	4
Physics 121, 122	3	3
C.E. 100, E.E. 307	1	1
C.E. 102, 203	2	2
Dev. Assy. 101, 102	½	½
P.E.	½	½
Undergrad. relig.	2	2
	16	16

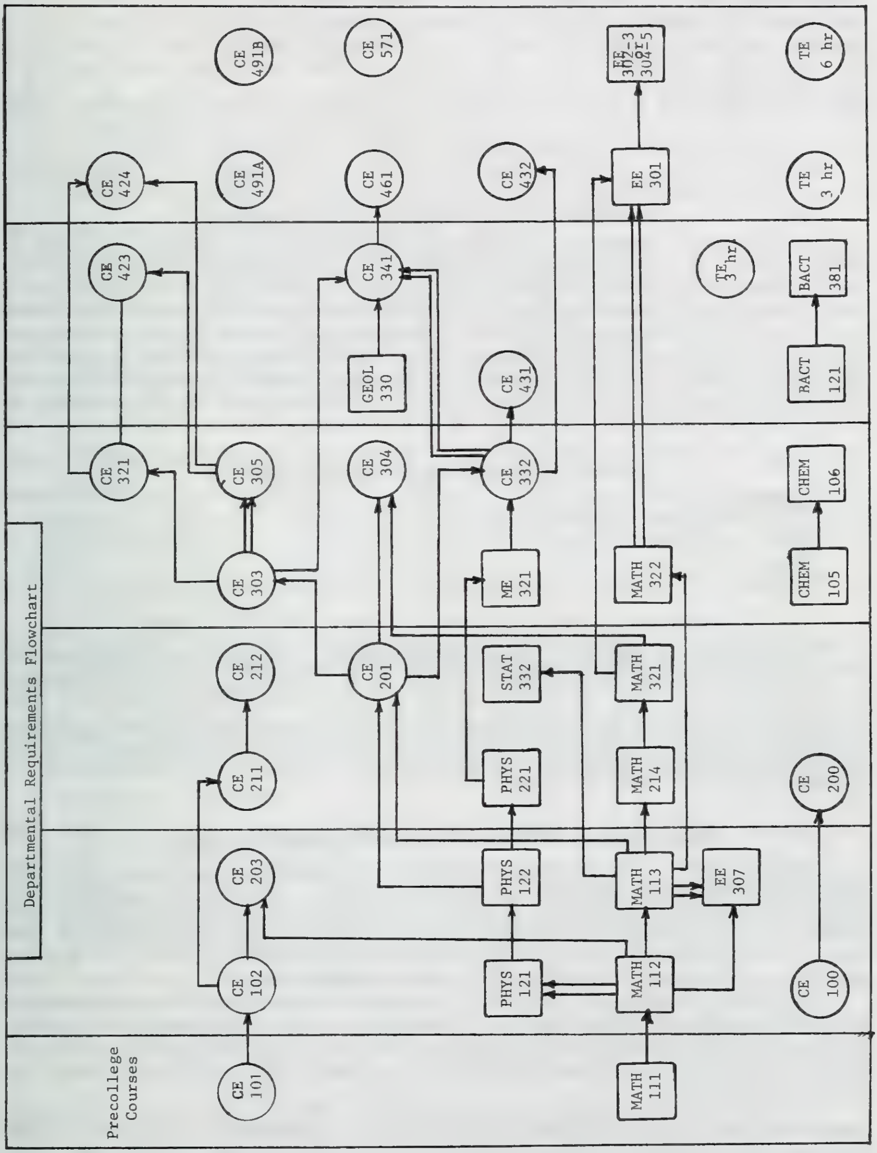
Second Year

	F	S
Math. 214, 321	3	3
Physics 221, Stat. 332	4	2
C.E. 211, 212	3	3
C.E. 200, 201	1	3
P.E.	½	½
Dev. Assy. 201, 202	½	½
Undergrad. relig.	2	2
Gen. ed., Health 130	2	2
	16	16

Third Year

	F	S
C.E. 303, 304	3	3
Chem. 105, 106	4	4
C.E. 321		3
M.E. 321, C.E. 332	3	3
Undergrad. relig.	2	2
Dev. Assy. 301, 302	½	½
Math. 332, C.E. 305	3	2
	15½	17½

(Fourth- and fifth-year programs outlined on page 198.)


Departmental Requirements Flowchart
Precollege Courses
CE 101
MATH 111
CE 102
PHYS 121
MATH 112
CE 100
CE 203
PHYS 122
MATH 113
EE 307
CE 211
PHYS 221
MATH 214
CE 200
CE 212
CE 201
STAT 332
MATH 321
CE 303
ME 321
MATH 322
CHEM 105
CE 321
CE 305
CE 304
CE 332
CHEM 106
GEOL 330
CE 431
BACT 121
CE 423
CE 341
TE 3 hr
BACT 381
CE 424
CE 491A
CE 461
CE 432
EE 301
TE 3 hr
CE 491B
CE 571
EE 302-3 or 304-5
TE 6 hr

Departmental Requirements Flow Chart

Fourth Year	F	S
Micro. 121, 381	3	2
Geol. 330, C.E. 341	3	3
Gen. ed.	3	3
C.E. 431, 423	3	3
Dev. Assy. 401, 402	½	½
Hist. 170, T.E.	3	3
	15½	14½

Fifth Year	F	S
C.E. 432, 571	3	3
C.E. 424	3	
E.E. 301, 302-3 or 304-5	2	3
T.E.	3	6
C.E. 491A,B	½	½
C.E. 461, Gen. ed.	3	3
	14½	15½

Requirements for Master of Science Degree

The master's degree is growing in importance and greater emphasis is being placed on graduate-level preparation for professional practice, research, and teaching. The Master of Science degree may be earned in three semesters of study beyond the bachelor's degree or in two semesters if the student has integrated some graduate study with the last year of study in his bachelor's program. A student must formally apply for admission to the Graduate School to study for the master's degree. The Graduate School Catalog contains details of the Graduate School requirements. However, basic group requirements of the Department of Civil Engineering are shown below for the Master of Science degree.

Master of Science Basic Requirements

	Credit Hrs.
Major technical electives	15
Minor technical electives	9
Thesis	6
Seminar	1
TOTAL	31

As part of the major or minor requirements, the department requires six credit hours of mathematics beyond the level of ordinary differential equations. A nonthesis option may be petitioned for, which, if granted, increases the total minimum hours required to 33. The graduate student is required also to register for graduate seminar, C.E. 691, each semester that he is a full-time student, for a maximum of one credit hour. This credit, at ½ credit hour per semester, is counted as part of the 31-hour total.

Requirements for Master of Civil Engineering Degree

The Master of Civil Engineering degree is designed for students who plan careers in professional engineering practice. However, the program is sufficiently basic to permit the student to continue in further graduate study beyond this degree if desired. Advanced course work in analysis, engineering behavior, and design is supplemented by an engineering study or project so that the student acquires an integrated professionally oriented experience.

The M.C.E. program is similar in basic requirements to that of the Master of Science program except for the following: (1) two additional three-credit-hour courses, (2) a required engineering study or project of three credit hours. There is no thesis requirement in the M.C.E. program. The total credit hours for this program are 34.

In each of the graduate programs, M.S. or M.C.E., the student pursues a course of study and research or design that is tailored to his particular needs and interests by close consultation with his individual faculty adviser and committee. Further study toward the Ph.D. degree is possible upon graduation with either master's degree.

Courses

100. Introduction to Civil Engineering I. (1:1:0) F.

Introduction to the fields and profession of civil engineering. Study of principles involved in solving engineering problems. Slide rule utilization.

101. Introduction to Engineering Graphics. (2:1:4) F.S.Su.
Materials and instruments in engineering drawing, introductory practice in orthographic projection; transfer of pictorial sketches and machine part samples to scaled drawings; lettering; auxiliary projection; dimensioning; sections and conventional practices; complete working drawings and reproduction processes.

102. Engineering Graphics I. (2:1:4) F.S.Su. Prerequisites: Math. 111, C.E. 101 or equivalent.
Graphics principles including three-dimensional space problems with points, lines, and planes; intersections, developments, gears, cams and elementary linkage analysis, and curved and warped surfaces.

200. Introduction to Civil Engineering II. (1:1:0) F.
A continuation of C.E. 100. Design concepts and procedures as related to civil engineering. Project evaluation and synthesis.

201. Engineering Mechanics-Statics. (3:2:3) F.S.Su. Home Study also. Prerequisites: Physics 122 or equivalent, Math. 113.
Introductory concepts of mechanics, force systems, and problems of equilibrium applied to structures, centers of gravity and centroids, elementary hydrostatics, friction in engineering problems, beam problems, and virtual work.

203. Engineering Graphics II. (2:1:4) F.S.Su. Prerequisite: Math. 112 or equivalent.
Graphical mathematics, graphic statics, special sliding scales, nomography, empirical equations, graphic calculus and introduction to conceptual design.

211. Elementary Surveying. (3:2:3) F. Prerequisites: Math. 111, C. E. 102 or consent of instructor.
Lectures and field work in measurements of distances, angles, and differences of elevation using the usual survey methods and instruments; preparation of notes; adjustments; simple triangulation and traverses; and use of the plane table.

212. Engineering Surveying. (3:2:3) S. Prerequisite: C.E. 211 or equivalent.
More advanced concepts in survey theory, including curve and earthwork survey and astronomical observations. Emphasis on engineering uses of survey techniques.

303. Engineering Mechanics—Mechanics of Materials. (3:2:3) F.S.Su. Home Study also. Prerequisite: C.E. 201.
Fundamental concepts in terms of elastic stress and strain relations; cylinders and spheres under pressure; problems of torsional load; beam theory including bending stresses, complex stress, calculations of deflection and continuity aspects, two-dimensional elastic theory.

304. Engineering Mechanics—Dynamics. (3:2:3) F.S.Su. Home Study also. Prerequisites: C.E. 201, Math. 321.
Basic concepts of dynamics applied to particles, systems of particles, rigid bodies, vibration systems, nonrigid particles systems and an introduction to selective topics in advanced methods in dynamics. Vector notations used in the treatment of all topics.

305. Properties of Materials. (2:1:3) F.S. Prerequisite: C.E. 303 or consent of instructor.
Theories and procedure of physical testing of materials; introduction to failure theories and solid-state concept of behavior of materials; the mechanics of deformation.

321. Elementary Structural Theory. (3:3:0) S. Home Study also. Prerequisite: C.E. 201, or C.E. 303 or consent of instructor.
Loads on structures, beams, trusses, influence diagrams, three-dimensional analysis, cable systems, approximate analysis of frames, deflections.

332. Hydraulics and Fluid Flow Theory. (3:3:0) S. Prerequisites: M.E. 321, C.E. 201.

An integrated study of the physical properties of fluids, fluid statics, fluid dynamics, viscous flow, compressible and incompressible flow—with particular emphasis to incompressible flow and other civil engineering applications.

341. Elementary Soil Mechanics. (3:2:3) S. Prerequisites: C.E. 303, 332, Geol. 330 or consent of instructor.

Basic physico-chemical characteristics of soils. The soil water system. Permeability seepage and associate uplift pressures. Consolidation theory, strength theory and the shearing strengths of sand and clay. Earth pressure theories, slope stability analysis, and applied aspects.

422. Theory of Statically Indeterminate Structures. (3:3:0) Arr. Prerequisite: C.E. 321.

Work and energy methods, moment distribution, slope deflection, influence lines.

423. Structural Steel Design. (3:2:3) S. Prerequisites: C.E. 305 and 321.

Theory and design of structural steel and other structural metals using elastic and plastic design concepts. Stress analysis and design of beams, stiffened girders, tension and compression members, and their connections.

424. Reinforced Concrete Design. (3:2:3) F. Prerequisite: C.E. 321.

Theory and design of reinforced concrete structures from both the elastic and plastic approach. Introduction to prestressed concrete.

431. Hydrology. (3:2:3) F. Prerequisite: C.E. 332.

Water as it occurs in nature; relationships between precipitation, evaporation, infiltration, transpiration, groundwater, and stream runoff.

432. Hydraulic Engineering. (3:2:3) F. Prerequisite: C.E. 332.

Application of principles of fluid mechanics to hydraulic engineering. Analysis of multiple pipe flow systems, open channel flow, hydraulic transitions and other practical hydraulic engineering problems.

442. Foundation Engineering. (3:2:3) Arr. Prerequisite: C.E. 341.

Subsurface exploration, bearing capacity concepts, settlement of structures, and basic principles of foundation design.

451. Sanitary Engineering. (3:2:3) S. Prerequisites: C.E. 432, Micro. 381.

Reviewing of public health engineering. Applications to design, construction, and operation of water supply and sewage systems.

461. Highway Engineering. (3:2:3) F. Prerequisite: C.E. 341.

Traffic studies, geometric design, grade separations, and interchanges. Properties subgrades, base courses, bituminous materials, and surface pavements. Theory and practice in flexible pavement design. Design of concrete pavements and techniques of road construction.

491A,B. Civil Engineering Seminar. (½:1:0) F.S.

Group discussion of technical and professional activities of the civil engineering profession. Participation by faculty, professional engineers, and other invited personnel and advanced students. Required of all majors in the fourth or fifth year.

501. Advanced Mechanics of Materials I. (3:3:0) (Interdepartmental) Arr. Prerequisite: C.E. 303.

Introduction to theories of elasticity, plasticity, and strain energy methods; stresses and strains in beams, curved members, rotating discs, thick cylinders, torsion and structural members.

502. Advanced Properties of Materials I. (3:3:0) (Interdepartmental) Arr. Prerequisite: 305 or equivalent.

Modern concepts of mechanics as applied to the behavior of engineering materials under various loading conditions and use including static, creep, fatigue and impact; stress concentrations; temperature and other environmental conditions; state of stress and internal structure; dislocation theory; tests and interpretation of test data.

503. Applied Elasticity. (3:3:0) Arr. Prerequisites: C.E. 303; Math. 321.
Analysis of stress and strain in two dimensions; equation of equilibrium and compatibility; problems in elasticity; emphasis on applications to machine and structural design.

505. Concrete—Its Materials, Uses, and Properties. (3:2:3) Arr. Prerequisite: Geol. 330.
Manufacturing and testing of cements; technology of concrete materials and concrete mix design; techniques of concrete handling, placing, and treatment; laboratory work.

507. Experimental Stress Analysis I. (3:2:3) Arr. Prerequisite: C.E. 303.
Principles and techniques of the experimental methods of stress determination and their applications to static engineering problems; includes mechanical and optical gages, and brittle lacquers; emphasizes electric strain gages, calibration, and instrumentation; introduces photoelasticity and photostress techniques.

513. Photogrammetry. (3:2:3) Arr. Prerequisite: C.E. 212.
Theory and application of the use of terrestrial and aerial photographs to produce maps; vertical and oblique photography and mapping procedures, stereoscopic viewing and measurements for relative position of objects in three dimensions, photo interpretation, sources of errors.

520. Selected Topics in Structural Engineering. (3:3:0) Arr. Prerequisite: B.S. in civil engineering (limited to non-BYU graduates).
Selected topics in mechanics of materials, structural theory for determinate and indeterminate structures, and structural design.

527. Stiffness and Flexibility Methods in Structures. (3:3:0) F.S. Prerequisite: C.E. 422.
Application of matrix algebra, development of the stiffness and flexibility matrices and the application of these methods to statically determinate and indeterminate articulated, frame and arch structures. Use is made of the digital computer.

531. Water Resources Engineering. (3:2:3) Arr. Prerequisites: C.E. 431, 432.
Planning and basic design of hydroelectric, flood control, irrigation, and multipurpose projects involving the utilization of water resources; consideration of hydraulic and hydrologic design elements.

543. Physico-Chemical Characteristics of Soils. (3:3:0) Arr. Prerequisites: Chem. 106, C.E. 341.
Physico-chemical relationships in soils, including the structures of the clay minerals, properties of the electrical double layer, ion exchange phenomena, and soil moisture movement and equilibria.

571. Engineering Ethics, Economics, and Legal Problems. (3:3:0) S.
Professional, legal, and economic problems of the engineering profession, including contracts, specification writing, and ethics. Case histories are studied as they affect the engineering profession.

602. Advanced Properties of Materials II. (3:3:0) Arr. Prerequisite: C.E. 502 or equivalent.
Topics selected from the following: analysis of stress and finite strains, theories of the mechanism of flow and fracture, theory of dislocation, creep, viscosity, visco-elastic behavior, non-Newtonian flow, theories of static and dynamic fatigue, thermo cycling, and fretting corrosion.

603. Theory of Elasticity. (3:3:0) Arr. Prerequisites: Math. 321 and 322 or equivalent.
The mathematical theory of elasticity; analysis of stress and strain; generalized Hooke's Law; uniqueness theorem; special topics in elasticity.

615. Structural Dynamics. (3:3:0) S. Prerequisites: C.E. 304 and 527 or equivalent.

Matrix formulation of the free and forced, damped and undamped, lumped parameter, multiple degree-of-freedom, linear systems. Approximate methods for nonlinear damped systems. Applications to elastic forced response of steel frameworks and beams subject to moving loads.

620. Advanced Structures—Theory and Design. (3:3:0) Arr. Prerequisites: C.E. 423 and 424.

Advanced topics in structural theory and design: arches, continuous structures on elastic supports, plastic design theory, articulated space structures.

621. Thin Shell Structures. (3:3:0) Arr. Prerequisites: C.E. 422, 424.

Theory and design methods related to domes, arches, solid plate, and hypar structures.

622. Design of Bridge Structures. (3:2:3) F. Prerequisites: C.E. 341, 422, 423, 424.

Design of bridge structures; floor systems, composite, and continuous beams and girders, trusses, piers, and abutments.

623. Advanced Concrete Design. (3:3:0) Arr. Prerequisites: C.E. 422 and 424.

Basic theory of prestressed concrete, pre- and post-tensioning methods, details of design and fabrication, applications to continuous structures. Yield line theory for reinforced concrete slabs. Design of folded plate structures.

625. Design of Multi-Story Structures. (3:2:3) S. Prerequisites: C.E. 341, 422, 423, 424, or consent of instructor.

Building code design criteria; dead and live loads; dynamic response to seismic and wind forces; shear wall theory and design. Analysis and design of floors, columns, frames, walls, and foundations using elastic and plastic methods.

632. Advanced Hydrology. (3:3:0) Arr. Prerequisites: C.E. 431, 432 or equivalent.

Theory and application of advanced hydrologic principles to engineering design and investigations.

633. Hydraulic Design of Water Control Structures. (3:3:0) Arr. Prerequisites: C.E. 432.

Hydraulic and structural design of dams and appurtenant works and other water control structures.

641. Advanced Soil Mechanics. (3:3:0) Arr. Prerequisites: C.E. 341, 442 or equivalent.

Advanced topics in soil mechanics including stress distribution in earth masses, the shearing strength of soils, consolidation theory, settlement analysis, stability of slopes, and the bearing capacity of soils.

642. Advanced Soil Mechanics Laboratory. (2:0:6) Arr. Prerequisites: C.E. 341, 442, 641, or equivalent.

Advanced study in the techniques of laboratory investigations of soils.

643. Earth and Rock Fill Structures. (3:3:0) Arr. Prerequisite: C.E. 341 or equivalent.

Aspects associated with the design and construction of earth and rock fill dams including geological study and erection of damsites, location and selection of materials, seepage and pore pressure studies, interpretation and application of shearing strength data, stability analysis and the construction controls.

644. Advanced Foundation Engineering. (3:3:0) Arr. Prerequisite: C.E. 641.

Applied course in foundation engineering including techniques of subsurface investigation, determination of the allowable soil pressures for footings, and the design of spread footings, raft foundation and pile foundation for structures on clays, silts, and sand.

645. Structural Foundations. (3:3:0) Arr. Prerequisites: C.E. 422 and 442 or equivalent.
An applied course in the structural design of foundations with special emphasis on pertinent aspects of soil mechanics. Foundation types will include spread footings, combined footings, raft foundations, retaining structures, driven piles, drilled piles, caissons and cofferdams.

652. Design of Water Treatment Works. (3:3:0) Arr. Prerequisite: C.E. 451 or equivalent.
Application of principles of hydraulics, chemistry, and bacteriology in engineering analysis and design of water treatment units including mixing, flocculation, sedimentation, sterilization, and water softening.

653. Design of Sewage Treatment Works. (3:3:0) Arr. Prerequisite: C.E. 451 or equivalent.
Application of principles of hydraulics, chemistry and bacteriology in engineering analysis and design of sewage treatment units including removal, sedimentation, flotation, filtration, activated sludge, sludge digestion, and dewatering facilities.

654. Industrial Waste Treatment. (3:3:0) Arr. Prerequisite: C.E. 451 or equivalent.
Studies of basic industries and operations and waste treatment problems associated with them. Problems of treatment unit design for various types of industries.

661. Traffic Engineering—Theory of Flow and Geometric Design. (3:3:0) F. Prerequisite: C.E. 461 or equivalent.
Analysis of the basic characteristics of motor-vehicle traffic. The theory of traffic flow. Freeway operations and traffic regulations. Design of highways and parking facilities, including freeways and expressways, arterials, at-grade intersections, interchanges, channelizations, parking lots and garages.

663. Pavement Design. (3:3:0) S. Prerequisite: C.E. 461 or equivalent.
Properties of pavement components, including soils, stabilized soil, base, subbase, subgrade, and bituminous materials. Design of rigid and flexible pavements. Pavement evaluation and strengthening. Materials selection and evaluation.

691A,B,C,D. Civil Engineering Seminar. ($\frac{1}{2}$:1:0 ea.) F.S.

694. Selected Problems in Civil Engineering. (1-3:Arr.:Arr.) Arr.

697. Research in Civil Engineering. (2:Arr.:Arr.) F.S.

698. Engineering Projects. (3:Arr.:Arr.) Arr. Prerequisite: registration in M.C.E. program.
Investigation, study, and presentation of a technical engineering report in an area of civil engineering. The project must be approved by the graduate committee.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

791A,B,C,D. Seminar for Doctoral Students. (1:1:0 ea.) Arr.

794. Selected Topics in Civil Engineering. (1-3:Arr.:Arr.) Arr.

797. Research for Doctoral Students. (Arr.) Arr.

799. Dissertation for Doctoral Students. (Arr.) Arr.

Clothing and Textiles

Associate Professors: Domigan, Jorgensen (chairman, 3256 SFLC).

Assistant Professors: Childs, Lee, Liechty.

Instructors: Domgaard, Harding, Lind.

The clothing and textiles curriculum is designed to help the student understand clothing as it relates to the needs of individuals and families and to provide training in the apparel and textile industries. A knowledge of textiles is emphasized as an aid to wise selection and effective use and care of clothes. Expression of creative abilities is encouraged in designing, selection, and construction of clothing.

Careers open to majors in this field vary with individual aptitudes and experience and with the choice of a minor. Professional opportunities are found in demonstration work, dress designing, dressmaking, fashion illustration, fashion merchandising, fashion promotion, garment manufacturing, institutional purchasing, textile designing, textile promotion, textile testing, and theater costuming. Students are also prepared for graduate study leading to college teaching, research, and extension services.

Major Requirements

Majors are required to complete a minimum of 26 credit hours in the Clothing and Textiles Department, with at least 3 credits in each of the four areas:

Construction: Clo. and Text. 165, 235, 355, 365, 595
Design and Selection: Clo. and Text. 110, 300, 345, 350
History and Economics: Clo. and Text. 330, 430, 472, 474, 476
Textiles: Clo. and Text. 260, 360, 490, 580, 594

For graduation from the College of Family Living, with a major in clothing and textiles, at least one course is required in each of the three supporting departments: child development and family relationships, food and nutrition, and housing and home management. Students will also complete general education requirements as prescribed by the University and 14 credit hours in a minor field of study. For graduation with a Bachelor of Arts degree, 8-12 hours of foreign language are required; for graduation with a Bachelor of Science degree, 6 hours of science are needed in addition to the general education science requirements. It is hoped that the language or science courses for these two degrees will be taken during the first two years. In meeting general education requirements, chemistry is designated for the physical sciences, psychology and economics for the social sciences; and microbiology is suggested for the biological science. The program provides for 19-23 hours of electives.

Transfer students should complete at least 10 credit hours of work in this department to qualify for graduation.

Campus Couture, sponsored by the department, provides opportunity for practical experience in designing and constructing garments for others. Majors are strongly advised to seek employment at Campus Couture for at least one semester. Employees are selected on the basis of their performance in clothing construction and design classes, and successful completion of Clo. and Text. 365.

Minor Requirements

Students who choose clothing and textiles for their minor field of study must complete 14 credit hours with at least one course in three of these areas: construction, design and selection, history and economics, and textiles. Men who desire to minor in clothing and textiles should consult the department chairman.

Suggested Minors for Clothing and Textiles Majors

Majors who are interested in costume design and illustration are advised to minor in art. Recommended courses to total 14 credit hours, four of which must be in upper-division work, are Art 120, 121, 122, 233, 250, 301, 322, 341, 343, and 362.

Students who are primarily concerned with textile design should complete a minor in art. Suggested courses to total 14 credit hours are Art 120, 121, 122, 233, 250, 263, 301, 362. Four credit hours must be of upper-division work. Hous. & Home Mgt. 221, 230.

A general business minor is appropriate for students planning to go into fashion merchandising, fashion promotion and institutional purchasing. The following are recommended courses: Acctg. 201, 202; Econ. 111, 112; Bus. Mgt. 247, 256.

Students who combine a clothing and textiles major with a minor in communications are encouraged to elect 14 credit hours from Commun. 101, 201, 211, 230, 255, 351, and 480.

Dramatic arts is a suitable minor for students interested in theatrical costuming. Recommended courses include: Speech and Dram. Arts 102, 123, 126, 319, 320, 362, 460, 564, 565.

Other minors chosen with the approval of the adviser may be more appropriate for students with special interests.

Recommended Sequence of Courses for Majors

Freshman

	Hours
Undergrad. Relig. 121, 122	4
Engl. (determined by placement test)	6
P.E.	1
Health 130	2
Clo. & Text. 110, 165	6
Chem. 101	4
Psych. or econ.	3
Fam. liv. elective	2
Language (for B.A.), science (for B.S.) or electives	3-4
Total Hours	31-32

Sophomore

	Hours
Undergrad. relig.	4
P.E.	1
Clo. and Text. 235, 260	6
Chem. 151	5
Psych. or econ.	3
Micro. 121	3
Engl. lit.	3
Zool. 105 or Bot. 101	3
Fam. liv. elective	2-3
Language (for B.A.) or science (for B.S.)	3-4
Electives	3
Total Hours	36-38

Junior

	Hours
Undergrad. relig.	4
Hist. 170	3
Hum. & fine arts	3
Clo. & Text. 300, 330, 345, 350, 355, 360, 365	10-12
Credit toward minor	6
Electives	8
Total Hours	34-36

Senior

	Hours
Undergrad. relig.	4
Clo. & Text. 430, 472, 474, 476, 490, 580, 594, 595	10-12
Credit toward minor	8
Fam. liv. elective	2-3
Electives	8
Total Hours	33-35

Forum and devotional assemblies may be added each semester for additional credit.

For students interested in fashion merchandising, the following courses are recommended for major, minor and general education requirements: Clo. and Text. 110, 165, 260, 360, 472, 474, 476, 490; Bus. Mgt. 247, 256; Econ. 111, 112; Psych. 111; Acctg. 201, 202; Commun. 101, 230; Chem. 101, 151; Speech and Dram. Arts 102.

Courses

105. Elementary Clothing Construction. (1:1:2) F.S. Domgaard
Unit method of clothing construction applied to simply designed cotton articles. A service course for nonmajors with little or no sewing experience.

110. Selection and Care. (2:2:1) (m) Harding, Liechty, Lind
Design elements related to apparel selection; principles of wardrobe planning and care; personal analysis for self-improvement. Open to men and women students.

165. Dress and Pattern Construction. (4:2:6) F.S. (m)
Childs, Domigan, Domgaard, Harding, Jorgensen, Lee, Liechty, Lind
Principles of flat pattern design, fitting, and clothing construction applied to a tailored dress and an afternoon or evening dress.

235. Children's Clothing. (2:1:3) F.S. (m) Prerequisite: Clo. and Text. 165.
Domgaard, Jorgensen, Lee, Lind
Selection, design, and construction of children's clothing as related to the child's developmental needs.

260. General Textiles. (3:3:1) F.S. (m) Childs, Domigan, Lee
Natural and synthetic textile fibers; yarns, fabric construction, dyes, and finishes; fundamental considerations in the purchase, use, and care of textile fabrics. Open to men and women.

300. Clothing the Family. (2:2:0) F.S. (m) Prerequisites: at least 3 hours in social science and one class in CDFR. Childs, Lee
Physical, social, and psychological needs related to clothing for family members at the various age levels. Coordinating family resources to solve the clothing problems of families. Open to men and women.

330. History of Costume. (3:3:0) F. (m) Prerequisite: some work in economics, sociology, or history. Jorgensen
Social, economic, and political influences on dress through the ages. Analysis of costume as an expression of the life of the people and as a basis for interpreting modern fashions. Open to men and women.

345. Draping and Flat Pattern Design. (3:2:4) F. (m) Prerequisites: Clo. and Text. 110, 165, 260. Recommended: Clo. and Text. 330. Liechty
Creative design achieved through techniques of flat pattern and draping on an individualized dress form.

350. Apparel Design. (2:2:2) S. (m) Prerequisites: Clo. and Text. 110, 165, 330, 345.
Creative experiences in designing apparel for different production processes and price levels. Resources for inspiration explored.

355. Tailoring. (3:3:3) F.S. (m) Prerequisites: Clo. and Text. 165, 260. Recommended: Clo. and Text. 345. Domgaard, Liechty, Jorgensen
Custom and commercial tailoring techniques applied to construction of coats and suits.

360. Intermediate Textiles. (3:2:2) F. Prerequisites: Clo. and Text. 260, Chem. 151. Staff
Recent developments in textiles. Performance testing of textiles by standard test procedures.

365. Couture and Mass Production Techniques. (2:1:4) F.S. Prerequisites: Clo. and Text. 345 or 355. Staff

Adapting apparel design and construction techniques to couture and mass production methods. Scheduled laboratory experience with Campus Couture. Field trips.

430. Historic Textiles. (2:2:0) S. (m) Prerequisite: Clo. and Text. 260. Recommended: Clo. and Text. 330. Liechty

History of the design and production of fabrics as an expression of man's cultural achievement. Open to men and women.

472. Fashion Industry. (2:2:0) S. (m) Prerequisites: 9 hours in clothing and textiles; Econ. 101. Jorgensen, Harding

Development of the fashion movement—its relation to manufacturing and consumption of clothing. Garment production, fashion designers, fashion cycles, and trade organizations. Open to men and women.

474. Clothing and Textiles Merchandising I. (2:2:0) F. Prerequisites: Clo. and Text. 360, 472. Recommended: Clo. and Text. 110, 165, 300. Staff

Problems and aids in buying and selling household textiles, fashion apparel and accessories from a retail store buyers' point of view. Quality comparison of products.

476. Clothing and Textiles Merchandising II. (3:2:4) S. Prerequisites: Clo. and Text. 360, 474; Acctg. 201, Bus. Mgt. 247. Staff

The processes involved in planning and operating the merchandising division in fashion retail stores. Laboratory experience in retail stores to be arranged by instructor.

490. Seminar. (1:1:0) F.S. Prerequisites: 12 credit hours in major and consent of instructor. Staff

Special reports and readings in clothing and textiles.

580. Advanced Textiles. (3:3:2) S. (m) Prerequisites: Clo. and Text. 360; Chem. 151 or equivalent; Bot. 101 or Zool. 105.

Fiber properties as they relate to molecular structure, morphology, and fine structure of fibers and as they affect fabric performance.

594. Special Problems. (1-2:Arr.:Arr.) F.S. Prerequisites: 15 semester hours in clothing and textiles and consent of instructor.

595. Problems in Construction. (1-2:Arr.:Arr.) F.S. Prerequisites: 15 semester hours in clothing and textiles and consent of instructor.

Communications

Professors: Bradley, Rich, Smith.

Associate Professors: Barrus, Burnett, J. M. Richards (chairman, F-506 HFAC), Wolsey.

Assistant Professors: Butterworth, McKinlay, Tarbox, Williams.

Instructors: Fairbanks, R. I. Goodman.

Special Instructors: S. J. Anderson, Nelson.

The professional program in communications includes a broad base of general education, thorough orientation in the processes, functions and responsibilities of mass communication, and the development of skills in fact finding, analysis, and communication through the mass media.

The department also provides service courses to help students from other departments develop desired communication skills and, in addition, offers the following general education course in the field of humanities and fine arts: Commun. 101, "Introduction to Mass Communication."

Undergraduate concentrations leading to the degree of Bachelor of Arts are offered in the following areas: advertising, journalism, and broadcasting. Courses are also offered in photocommunication and for a photography technology specialization in the two-year program of the College of Industrial and Technical Education.

Graduate studies are offered leading to the degree of Master of Arts in communications. Graduate students should consult the Graduate School Section of this catalog or the Graduate School Catalog.

General Education

See "General Education Program" in the Student Academic Services Section of this catalog for courses which may be taken to fill prescribed areas in general education requirements for graduation. All majors are expected to take Physics 177 (Physics of Light and Photography) as part of the general education requirement in physical science.

Communications majors are advised to obtain a broad background in the fine arts, humanities, and social sciences. Study of a foreign language for two years or more is recommended.

In filling the general education requirement in American history and government, majors must take Pol. Sci. 110 and either Hist. 121 or Econ. 274, six semester hours. One of these combinations of courses will serve in place of Hist. 170.

Departmental Core Curriculum

Students seeking the Bachelor of Arts degree in communications will complete eighteen hours of credit in the departmental core curriculum and a minimum of fourteen hours of credit in one of the following concentrations: advertising, journalism, or broadcasting. The following are the core courses in communications:

Commun. 101	Introduction to Mass Communication	2 hours
Commun. 201	The Communications Process	2
Commun. 211	News Writing	3
Commun. 230	Introduction to Advertising	2

Commun. 255	Introduction to Broadcasting	2
Commun. 307	Communications Law	3
Commun. 480	Senior Seminar	3
Commun. 491	Communications Symposium	1
		18 hours

Concentration in Advertising

The concentration in advertising provides a program of studies leading to professional work in advertising agencies; advertising departments of business, manufacturing, and public institutions; and advertising and promotion functions of newspapers and broadcasting stations. In addition to the core courses, each major must complete 14 hours in prescribed or elective courses as listed below:

Commun. 331, 333, 439, 535	10 hours
Communications electives chosen in consultation with adviser	4 hours
(Total hours, including core courses: 32)	14 hours

Each major in advertising must complete an approved minor of 14 credit hours in another department, plus 9 credit hours in an additional supporting field. At least one of these two fields must be selected from the following: art, business management, economics, psychology, sociology, or statistics. The other minor may also be from one of the above areas or from any other academic discipline of the University, subject to the approval of the adviser.

Concentration in Journalism (News-Editorial)

The journalism concentration is designed to prepare students for work on the news and editorial staffs of daily or weekly newspapers and press services. (Special programs will be planned for those preparing for news broadcasting or magazine staff work.) In addition to the core courses, each major must complete 14 hours in prescribed or elective courses as listed below:

Commun. 312, 323 or 495, 520	10 hours
Communications electives chosen in consultation with adviser	4 hours
(Total hours, including core courses: 32)	14 hours

Each major in journalism must complete an approved minor of 14 credit hours in another department, plus nine credit hours in an additional supporting field. At least one of these two fields must be selected from the following: economics, English, geography, history, languages, political science, or sociology.

Concentration in Broadcasting

The concentration in broadcasting offers preparation for positions in commercial and educational station operation, program writing, producing, and directing. In addition to the core courses, each major must complete 14 hours in prescribed or elective courses as listed below:

Commun. 346, 340 or 351, 449	7 hours
Communications electives chosen in consultation with adviser	7 hours
(Total hours, including core courses: 32)	14 hours

Each major in broadcasting must complete an approved minor of 14 hours in another department, plus nine credit hours in an additional supporting field. At least one of these two fields must be selected from the following: art, business management, dramatic arts, economics, English, psychology, sociology, speech or statistics.

Secondary School Teaching

Students who desire to prepare for journalism teaching and student publication supervision in secondary schools should complete the 30-hour teaching major in journalism (communications) and one of the teaching minors as listed in the Teacher Education Section of this catalog, in addition to prescribed courses in teacher education.

Those desiring to specialize in educational broadcasting should complete the same teaching major, choosing appropriate elective courses in broadcasting in consultation with their adviser.

Supplementary Information

The requirements in the concentrations listed above may be modified to allow for previous experience or individual needs upon permission of the chairman of the department.

In addition to maintaining the minimum grade-point averages required by the academic standards of the University, majors must maintain a grade-point average of 2.5 or higher in all work taken in the department. Not more than 36 credit hours in the department may be included in the undergraduate program unless the student presents more than 128 credit hours for graduation with the baccalaureate degree.

Course offerings are supported by laboratory facilities in the areas of advertising, reporting and editing, photography, and broadcasting. Students in advertising and journalism have opportunity to combine their academic programs with staff assignments on the "Daily Universe," the campus newspaper. Formal course work in broadcasting is supplemented by an apprenticeship program providing practical experience in broadcasting operations, and opportunities for service with the staffs of KBYU-TV and KBYU-FM.

As a link between the student's academic preparation and his professional career, professional internships are arranged for qualified seniors and graduates. In these internships supervised experience is gained on the staffs of selected newspapers, magazines, radio and television stations, and advertising agencies and offices.

The department sponsors a series of lectures on communications throughout the year to bring students in contact with leading professionals and scholars in the field of communications. Professional activities for students are fostered by departmental clubs and campus chapters of a number of national organizations, including the following: Sigma Delta Chi, professional journalistic society; Alpha Epsilon Rho, professional broadcasting fraternity; Kappa Tau Alpha, journalism scholarship society; and the Advertising Club.

Requirements for a Minor

The general minor in communications includes a minimum of 14 credit hours selected from the core curriculum and one of the concentrations listed above. Communications 307 and 480 are required of minors.

The teaching minor in journalism (communications) includes 20 credit hours and is listed in the Teacher Education Section of this catalog.

Courses

101. Introduction to Mass Communication. (2:2:0) F.S.Su. Home Study also. (G-HA)

A survey of the media of mass communication and their functions in modern society: newspapers, magazines, motion pictures, radio and television, advertising, and public relations.

201. The Communications Process. (2:2:0) S. Barrus, Rich, Wolsey

Introduction to the theory of communications; the meaning of meaning; major contributors to communications theory. Sociol. 215 may be substituted for this course.

211. News Writing. (3:2:3) F.S.Su. Home Study also. Prerequisite: Engl. 112 or equivalent or consent of instructor.

Principles of gathering, evaluating and writing news for newspapers and broadcast media; introduction to specialized forms of mass media writing.

230. Introduction to Advertising. (2:2:0) F.S.Su. Home Study also. Wolsey
Principles of advertising and its role in the American economy; values to advertisers and media. Newspaper, radio, and television advertising is emphasized.

255. Introduction to Broadcasting. (2:2:1) F.S.Su.
The role of radio and television in modern society. A study of influences, current practices, and social implications of the American system of broadcasting.

307. Communications Law. (3:3:0) F.S.Su. Home Study also. Burnett
Legal rights, privileges, and regulations of press, radio, television, and films; principles of libel, contempt, copyright, and right of privacy; decisions of regulatory bodies.

312. News Reporting and Editing. (4:3:4) F.S.Su. Prerequisites: Commun. 211, Indus. Ed. 250. Burnett
Evaluation of news; advanced reporting practice; copyreading; headline writing and page makeup. Beat reporting and practice in handling local and wire copy for publication.

323. Practical Reporting and Editing. (3:1:8) F.S.Su. Prerequisite: Commun. 312.
Supervised experience in reporting, copyreading, and editing assignments on the "Daily Universe"; individual conferences with instructor.

331. Advertising Copy and Layout. (2:2:0) F.S. Prerequisites: Commun. 230, Indus. Ed. 250.
Reader interest, sales appeal, and production techniques for advertising in printed media. Students design retail and product advertisements for typical publications.

333. Broadcast Advertising. (2:2:0) F.S. Prerequisites: Commun. 230, 255. Wolsey
Advertising principles for broadcast media; study of research, station coverage, and audience measurement. Writing commercials, programs, spot announcements; time buying, production, transcription, and film services.

340. Broadcast News. (3:2:4) S. Prerequisites: Commun. 255, 312. Recommended: Commun. 312, 372. Bradley
News preparation and production of newscasts and public affairs programs. Consideration of interviews, documentaries, commentaries, editorials, and special events. Practical and laboratory experience provided.

346. Broadcast Production. (3:2:3) F. Prerequisite: Commun. 255.
Techniques of planning and producing radio and television programs.

351. Broadcast Writing. (2:2:0) F. Prerequisites: Commun. 211, 255 or consent of instructor. Williams
Study of and practice in documentary, dramatic, and continuity writing for radio and television.

365. Press Photography. (2:1:3) F. Prerequisites: Physics 177 or equivalent; Art 120 or consent of instructor.
Principles of photography for newspapers and periodicals; practice in the use of professional equipment for taking and processing news and feature pictures.

366. Advertising and Industrial Photography. (2:1:3) S. Prerequisites: Physics 177 or equivalent, Art 120 or consent of instructor.
Instruction and laboratory practice in photography and layout for newspaper, magazine, and television advertising; industrial and business applications of photography.

367. Portrait Photography. (2:1:3) F. Prerequisites: Physics 177 or equivalent; Art 120 or consent of instructor.
General portrait studio and darkroom procedures with emphasis on the plastic quality of light on the human head and figure.

368. **Pictorial Photography.** (2:1:3) S. Prerequisites: Physics 177 or equivalent; Art 120 or consent of instructor.
Art composition in its application to photography. Exercises in photographing landscapes and still life.

371. **Introduction to the Motion Picture.** (2:2:1) F.S.Su. Prerequisite: Physics 177 or equivalent. Goodman
Introduction to documentary film theory, using films to illustrate technique and content. Overview of communication aspects of the cinema.

372. **Motion Picture Production.** (3:2:4) S. Prerequisite: Commun. 371. Goodman
Elements of silent motion picture production, including story boards, shot continuity, camera and lens utilization. Laboratory projects using 8 mm and 16 mm equipment.

373. **Motion Picture Writing.** (3:3:0) F.S.Su. Prerequisite: Commun. 211. Nelson, Whitaker
Basic fundamentals of script playwriting, from synopsis through screen treatment to final shooting script; analysis of theme and maturation action by reviewing films; aesthetics and script mechanics treated.

377. **Secondary Teaching Procedures.** (3:3:1) F. Prerequisites: Commun. 312; Tchr. Ed. 301.
Identification of teacher and pupil activities required for conceptual learning and for each of the following types of subject matter and teaching: symbolic, performance ability, and habit. Lectures, demonstrations, and participation in noninstructional activities at a high school.

427. **Magazine Writing.** (3:3:0) F. Home Study also. Prerequisite: Commun. 211 or consent of instructor.
Planning and writing nonfiction articles for sale to periodicals. Analysis of magazine markets and criticism of articles written in the course.

432. **Retail Advertising.** (2:2: Lab. incl.) F. Prerequisites: Commun. 230, 231. Barrus
Organizing retail advertising department; planning and preparing retail advertising programs, with emphasis on advertising problems of smaller independent retail organizations; outside project in cooperation with local retailers.

434. **Newspaper Advertising Management.** (2:2: Lab. incl.) S. Prerequisite: Commun. 230 and 331. Richards
Principles of newspaper advertising, organizing the advertising staff, servicing of local and national accounts, display and classified rate structures, advertising sales, promotion and research.

437. **Advertising Workshop.** (2:1:2) F.S. Prerequisites: Commun. 331, 333. Barrus, Wolsey
Application of research, media selection, and principles of copy, layout, and broadcast advertising to specific problems.

439. **Advertising Media and Campaigns.** (3:3:0) F.S. Prerequisites: Commun. 331, 333, 437.
Research and planning of advertising campaigns as related to national and local objectives; media selection and budgeting; individual project in production of an advertising campaign.

444. **Broadcast Sales Administration.** (2:2: Lab. incl.) F.S. Prerequisites: Commun. 230 and 255. Barrus, Bradley, Wolsey
The course is designed to develop the student's understanding of the complex interrelationships that are involved among various departments, in order to handle professionally the sales administration of a broadcast facility.

449. Broadcast Programs and Audiences. (2:2:0) F.Su. Home Study also. Prerequisite: Commun. 346.

Observation and analysis of basic program forms used in radio and television; examination of effective program structure and appeals; consideration of audience situation and measurement.

453. Radio and Television Announcing Workshop. (1:0:3) F.S. Prerequisites: Commun. 255 and consent of instructor. McKinlay

Laboratory and broadcast practice in presentation of major types of radio and television announcing materials.

456. Television Directing Workshop. (2:1:3) S. Prerequisite: Commun. 346. Recommended: Speech and Dram. Arts 460. Tarbox

Theories and techniques of television directing.

458. Broadcasting and Film Performance Workshop. (2:1:3) F. Prerequisite: Commun. 255; Speech and Dram. Arts 121, 123.

480. Senior Seminar. (3:3:0) F.S. Prerequisites: Commun. 101 and senior standing.

Analysis of contemporary practices and problems of the mass media as social and business institutions; introduction to communications research.

491A,B. Communications Symposium. ($\frac{1}{2}$:1:0 ea.) F.

Lectures by professional communicators and specialists in communications analysis.

495. Projects in Communication Practice. (1-4:0:5-20) F.S.Su. Prerequisites: senior standing and consent of department chairman.

Professional projects or internships for communications majors in advertising, public relations, journalism, radio, television, or photocommunications.

(Students must make application to the department chairman for assignment one semester in advance of the term during which assignment to a project is desired. Internships normally will be assigned on the block plan during the Fall or Spring Semester or during either term of Summer School.)

510. Mass Media Administration. (2:2:0) S. Prerequisites: Commun. 312, or 439, or 449.

Problems of organization and administration for newspapers, magazines, radio stations, and television stations.

520. Editorial Writing and Interpreting Public Affairs. (3:2:3) S. Prerequisite: Commun. 312 or consent of instructor.

Study of the opinion and interpretative functions of the mass media of communication. Assignments in editorial writing and depth reporting.

526. School Yearbook Production. (2:2:0) F.Su. (Offered 1967-68 and alternate years)

Planning and supervising production of school yearbooks, including copy, illustration, layout, printing, binding, and business management.

528. Magazine Editing and Publishing. (2:2:0) S. Prerequisite: Commun. 312.

Principles of layout and design for magazines and business publications. Contemporary practices in content and production.

535. Public Relations. (3:3:0) F.S.Su. Home Study also. Prerequisite: Commun. 211 or consent of instructor. Bradley

Philosophy and practice of public relations in business, governmental, educational, and other institutions. Study of publics, media, methods, press relations, and publicity.

536. Public Relations Case Studies. (2:2:0) S.

Case studies in public relations. Cases are selected from a wide range of actual public relations problems which have confronted business, governmental, educational, and service institutions.

550. Problems and Practices in Educational Television and Radio. (2:2:0) S.Su. Prerequisites: advanced standing in communications or graduate education.
A study of current problems and practices in the utilization and administration of television and radio in education and other noncommercial applications.

580. Comparative World Communication Systems. (2:2:0) F.Su. Burnett
Mass media systems in developing authorization and free nations. Relationship of these systems to government.

581. International Communication Problems. (2:2:0) S.Su. Burnett
An examination of the cultural, physical, and governmental barriers to the flow of information between nations. Role of the press in foreign policy. International propaganda.

610. Studies in Communication Theory. (3:3:0) F. Recommended: one or more courses in philosophy, psychology and sociology.
A study of the historical and philosophical development of communications theory with special application to problems of the mass media.

611. Research Methods in Mass Communication. (2:2:0) F.Su. Prerequisites: Stat. 221, or Grad. Ed. 552, or Psych. 370 or Sociol. 524.
Research techniques in communication fields, including readership, readability, content analysis, and audience measurement. Introduction to thesis writing.

612. Mass Communication and Society. (3:3:0) S.Su.
Concepts of mass communication in contemporary society; critical evaluation of responsibilities and performance of the mass media of press, radio, television, and film.

615. Propaganda, Public Opinion, and Communications. (2:2:0) S.
Roles of the mass media as channels of propaganda and influences upon public opinion. Effects of public opinion on mass communications.

617. Mass Communications and Government. (3:3:0) S. Prerequisites: Commun. 307 or Pol. Sci. 361 or Pol. Sci. 563. Burnett
An examination of the contemporary relationship between government and the mass media with attention to the philosophical and historical basis for regulation in light of constitutional guarantees.

620. Communication and Information Technologies. (2:2:0) F. (Su. alternate years) Prerequisite: graduate standing. Williams
Systems and technologies for encoding, transmitting, processing, decoding information by electronic-mechanical means; analysis of computer use in new methods of interchanging print, and other messages.

630. Advertising Planning and Research. (2:2:0) S. (Offered 1968-69 and alternate years) Prerequisite: Commun. 439.
An analysis of methods employed to measure the effectiveness of advertising, with emphasis on pretesting techniques for advertising campaigns.

690. Seminar in Mass Communication. (1:1:0) F.S.Su.

691, 692. Special Studies in Communication. (1-3:Arr.:Arr. ea.) F.S.Su.
Individual work on approved problems not leading to a thesis. Projects must be approved before registration.

694. Readings in Mass Communication. (1-2:Arr.:Arr.) F.S.Su. Prerequisite: consent of instructor.

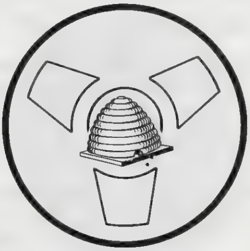
699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

Computer Science

Associate Professors: Carlson (director, C-73 ASB), Dean.

Assistant Professor: Gardner.

Instructors: Engstrom, Robison, Wright.



The computer science program is designed to fill two needs: (1) basic training in computer usage through programming and (2) an academic minor for students majoring in fields for which computing has become a significant tool of research. The first of these needs is fulfilled at various levels by (1) frequent noncredit courses covering the fundamentals of the FORTRAN and the COBOL programming languages and (2) a series of credit courses—the basic language group, Comput. Sci. 331, 332, and 333—in algorithmic programming using FORTRAN, machine language, and COBOL respectively as vehicles. The second need is fulfilled by the addition to the basic language group of some appropriate combination of three of the following courses: Comput. Sci. 351, Comput. Sci. 431, Comput. Sci. 441, Comput. Sci. 451, Psych. 570, Math. 411, Math. 412, Stat. 511. Any of these courses being used to satisfy the major cannot, of course, be used in the minor. Information regarding the schedule of the noncredit courses in programming languages may be obtained at the computer center office.

Courses

201. Computers and Their Use. (2:2:0) F.S.
General introduction to computers—how they work and their use in the modern world.

☐**Mathematics 210. Introduction to Mathematical Logic.** (3:3:0)

331. Computer Programming Languages I (FORTRAN). (3:3:2) F.S.Su. Home Study also. Prerequisite: college algebra or Math. 210. Recommended: Comput. Sci. 201, or equivalent.
Introduction to basic FORTRAN programming. Fundamentals of digital computer usage through programming.

332. Computer Organization and Programming (Assembly Language). (3:3:2) F.S. Su. Prerequisites: Comput. Sci. 331 or Comput. Sci. 333 and college algebra and trigonometry.
Logical basis of computer structure and essentials of computer programming with particular emphasis on machine representation and programming in assembly languages.

333. Computer Languages II (COBOL). (3:3:2) F.S. Prerequisites: college algebra or Math. 210.
Introduction to basic COBOL programming. Fundamentals of digital computer usage through programming, with particular emphasis on business information processing applications.

351. Information Structure. (3:3:1) F. Prerequisites: at least concurrent registration in Comput. Sci. 332.
Computer representation of information; its structure and logical organization for optimum computer processing and transformation between storage media, and implications of the design of the processing language.

☐**Accounting 356. Accounting Information Systems.** (3:3:0)

☐**Mathematics 411, 412. Numerical Analysis.** (3:3:0 ea.)

431. **Algorithmic Languages and Compilers.** (3:3:2) F. Prerequisite: Comput. Sci. 331, 333 or equivalent.
Formal description of algorithmic languages, e.g., FORTRAN and the techniques used in their compilation. Study of syntax, semantics, ambiguities, procedures, replication, iteration, and recursion.

441. **Computer and Programming Systems.** (3:3:1) S. Prerequisites: Comput. Sci. 332, Compt. Sci. 431 and either Comput. Sci. 331 or Comput. Sci. 333, at least concurrent registration in Comput. Sci. 351.
Structure and design of programming support packages, input-output and storage systems, data bases, assembly and executive systems, timesharing and partitioned systems, and interrupt processing.

451. **Information Systems Analysis.** (3:3:2) S. Prerequisite: Comput. Sci. 351.
Advanced techniques of analyzing information needed to design and implement a computer processing system.

☐**Statistics 511. Advanced Computer Methods in Statistics.** (3:1:6)

☐**Electrical Engineering 523. Digital Computer Design.** (3:3:0)

☐**Electrical Engineering 528. Analog Computer Design.** (2:2:0)

☐**Accounting 557. Advanced Computer Programming.** (3:1:3)

☐**Psychology 570. Computer Use in Behavioral Sciences.** (3:3:6)

571. **Systems Simulations.** (3:3:1) S. Prerequisites: introductory statistics, either Comput. Sci. 332 and 351 or 331, and Psych. 570. Carlson
Computer simulation utilizing logical, numerical, and Monte Carlo models. Collection and evaluation of statistics on passage times, flow volumes, queue lengths, manpower and equipment utilization.

☐**Electrical Engineering 623. Advanced Digital Computers.** (3:3:0)

Computer instruction at the console

Devotional Assemblies

Assistant Professor: Stephen R. Covey (D-364 ASB).

(An interdepartmental area only)

Throughout the history of Brigham Young University, students have been privileged to receive special visits from the General Authorities of the Church and hear messages prepared especially for them. At present, devotional assemblies are held weekly on Tuesday mornings. It is planned that during the academic year the students will have the opportunity to hear outstanding Church leaders including members of the First Presidency and the Council of the Twelve Apostles.

Credit for attendance at the weekly devotional assembly may be earned at the rate of one-half semester hour per semester, and such credit may be applied toward the requirement for religion in the following manner: Up to four hours of devotional credit may be used to fulfill the sixteen-hour religion requirement.

Courses

101, 102. Lectures in Religion. (½:1:0 ea.) F.S.Su. Guest Lecturers

201, 202. Lectures in Religion. (½:1:0 ea.) F.S.Su. Guest Lecturers

301, 302. Lectures in Religion. (½:1:0 ea.) F.S.Su. Guest Lecturers

401, 402. Lectures in Religion. (½:1:0 ea.) F.S.Su. Guest Lecturers

Economics

Professors: W. Clark (chairman, 302 JKB), Davies, Doxey, Nelson.

Associate Professors: Bateman, Rickenbach, Wirthlin,

Assistant Professors: Foster, Ogata, Wimmer.

Economics, as a social science, provides a broad background for entrance into many professional areas. Thus, a minimum of special courses is required, allowing the student considerable flexibility in developing his own program.

Several programs are available to serve students majoring in economics:

1. General business economics—for students desiring to go directly into business.
2. Labor relations and labor economics—for those intending to make labor relations a profession.
3. Preprofessional economic training—for those contemplating entering law school, a graduate school of business, government service, or similar areas of study.
4. Economic theory—for students intending to do graduate work in economics or allied fields.
5. International economics—for those desiring to enter foreign service or engage in international trade.
6. Junior college teaching—for graduate students planning to teach economics in the junior colleges.

Students selecting economics as a minor subject must take a total of 15 hours, including Econ. 111, 112, at least one intermediate theory course (301, 302, 311 or 312) and the remainder in courses numbered 300 or above.

The bachelor's degree in economics is offered in both the College of Business (B.S. degree) and the College of Social Sciences (B.A. degree).

Students registering for any course numbered 300 or above must have passed Econ. 111 and 112, or equivalent.

Students registering for any of the 500 or 600 series in economics must have passed Econ. 311 and 312 or obtain permission of the instructor.

No more than 3 hours of "D" credit in economics may be applied toward graduation.

Requirements for a Major in the College of Business

Econ. 111, 112, 311, 312, and either 415 or 474.

Fifteen additional hours in economic courses numbered 300 or above, which must include Econ. 353.

Statistics 221 or 332 or 421.

Econ. 488 or an additional 3-semester-hour course in statistics. (Econ. 488 may not count toward the 15 additional hours, unless the extra statistics course is taken.)

Math. 108 and either Math. 109 or Econ. 289.

Math. 109 may be counted for 3 hours toward the 15 additional hours in economics. Students who have taken Math. 109 may not count Econ. 289 toward the 15 additional hours.

Business Management 321 or 340 and 347.

Accounting 201, 202, and 342.

Math. 109, Econ. 511 and 512 are strongly recommended for those contemplating graduate work in economics or business.

Requirements for a Major in the College of Social Sciences

Econ. 111, 112, 311, 312, and either 415 or 474. Fifteen additional hours in economics courses numbered 300 or above.

Statistics 221 or 332 or 421.

Economics 488 or an additional 3-semester-hour course in statistics. (Econ. 488 may not be counted toward the 15 additional hours, unless the extra statistics course is taken.)

Math. 108 and either Math. 109 or Econ. 289.

Math. 109 may be counted for 3 hours toward the 15 additional hours in economics. Students who have taken Math. 109 may not count Econ. 289 toward the 15 additional hours.

Math. 109, Econ. 511 and 512 are strongly recommended for those contemplating graduate work in economics or business.

The minor requirements must be approved by the adviser and should include no fewer than 14 hours in a department in the College of Social Sciences, or the Departments of Mathematics or Statistics. Minors outside these areas must also be approved by the department chairman.

Courses

101. Survey of Economics. (3:3:0) F.S.Su. Home Study also. (G-SS).

A one-semester survey course designed to familiarize students with fundamental economic principles and to develop an understanding of the critical economic problems facing America and the world today.

111. Introduction to Economic Principles and Problems. (3:3:0) F.S.Su. Home Study also. (G-SS m)

An elementary course in economic principles and problems; emphasis is placed on employment and national income analysis.

112. Introduction to Economic Principles and Problems. (3:3:0) F.S.Su. Home Study also. (G-SS m)

A continuation of Econ. 111. Emphasis is placed on the theory of price and its effect on the household, firm, and industry.

241. Comparative Economic Systems. (3:3:0) F.S.Su. Home Study also. (G-SS m) Nelson

Analysis and critical appraisal of contemporary economic systems: capitalism, socialism, and communism.

274. Economic History of the United States. (3:3:0) F.S.Su. Home Study also. (G-SS m) (Not open to economics majors.) Davies, Doxey

289. Introduction to the Elements of Mathematical Economics. (3:3:0) F.S.Su. Prerequisites: Econ. 111 and 112, Math. 108, Stat. 221 or 332, or consent of instructor.

Introduction to the mathematical tools and their application to the quantifiable, but not necessarily the quantitative, elements of economic theory.

301. Income Analysis. (3:3:0) F.S.Su. (m) Prerequisites: Econ. 111, 112 or equivalent; Math. 108 or equivalent. (Not open to economics majors.)

Intermediate economic theory; emphasis is on national income analysis.

302. Price Analysis. (3:3:0) F.S.Su. (m) Prerequisites: Econ. 111, 112 or equivalent; Math. 108 or equivalent. (Not open to economics majors.)

Intermediate economic theory; emphasis is on price and distribution analysis.

311. Theory of Income, Employment, and the Price Level. (3:3:0) F.S.Su. (m) Prerequisites: Econ. 111, 112, and Math. 108 and 111 or equivalent. Clark, Wirthlin

An upper-division course in economic theory with emphasis on national income analysis.

312. Theory of Price. (3:3:0) F.S.Su. (m) Prerequisites: Econ. 111 and 112 and previous or concurrent registration in Math. 112 or Econ. 289. Rickenbach, Wimmer

An upper-division course in economic theory with emphasis on price and distribution analysis.

334. Economic Development in Latin America. (3:3:0) S. (m) Prerequisites: Econ. 111 and 112 or equivalent. Bateman, Wirthlin

An analytical treatment of the patterns of economic growth of Latin-American countries. Attention directed to problems of resource allocation, industrialization, inflation, rural-urban migration, etc.

352. Real Estate and Urban Economics. (3:3:0) F. Home Study also. (m) Prerequisites: Econ. 111, 112, or equivalent. Nelson, Rickenbach

An introduction to the principles and problems associated with real estate decisions as they relate to valuation, financing, marketing, and economic trends.

353. Money and Banking. (3:3:0) F.S.Su. (m) Prerequisites: Econ. 111 and 112 or equivalent. Foster

Principles of money and banking as related to monetary and banking theory and policy.

358. International Trade and Finance. (3:3:0) F. (G-SS m) Prerequisites: Econ. 111 and 112, or equivalent. Bateman, Doxey, Wirthlin

An introduction to the principles and problems of international trade and finance. Special emphasis is placed on their application to the United States.

361. Labor Relations. (3:3:0) F.S. (m) Prerequisites: Econ. 111 and 112 or equivalent. Davies

History of the labor movement, collective bargaining, and labor legislation.

415. History of Economic Thought. (3:3:0) F. (m) Prerequisites: Econ. 111 and 112, or equivalent. Davies, Wirthlin

An analysis of the development of economic thought from the time of Aristotle to the present.

430. Economic Development. (3:3:0) S. (m) Prerequisites: Econ. 111, 112, or equivalent. Bateman, Doxey, Wirthlin

The theory and experience of achieving economic growth in both underdeveloped and developed economies is presented.

441. Advanced Comparative Economic Systems. (3:3:0) S. (m) Prerequisites: Econ. 111 and 112, or equivalent. Nelson

Through the use of economic models rigorous analyses of capitalism, market socialism and central planning systems are made. Emphasis is on the application of economic principles to the problems of comparative systems.

452. Urban Economics: Theory, Problems, and Policies. (3:3:0) S. (m) Prerequisites: Econ. 111 and 112, or equivalent. Nelson, Rickenbach

Economic theory applied to contemporary urban problems. Study topics include urban growth, community structure, location theory, valuation, and government policies.

462. Economics of the Labor Market. (3:3:0) S. (m) Prerequisites: Econ. 111 and 112, or equivalent. Davies

A study of wage theory, manpower utilization, labor market policies, and social welfare programs.

471. European Economic History. (3:3:0) S. (m) Prerequisites: Econ. 111 and 112, or equivalent. W. Clark

Historical development of Europe's economic institutions and their effect on the general history of that continent.

474. American Economic Development. (3:3:0) F.S. (m) Prerequisite: Econ. 312. Ogata, Wimmer

An investigation of the strategic factors in American economic growth and welfare.

476. Government and Business. (3:3:0) S. (m) Prerequisite: Econ. 311. Doxey, Rickenbach

A study of the economic implications of government regulating and shaping business policy—stabilizing policy instruments, structural and antitrust policy, and policy needs of the future.

482. Introduction to Business Fluctuations. (3:3:0) F. (m) Prerequisites: Econ. 111 and 112 or equivalent. Bateman

Analysis of the nature, causes, and control of business and economic fluctuations. Identification of the problems of instability as it relates to forecasting economic activity and growth of the economy.

488. Introduction to Econometrics. (3:3:0) F.S. (m) Prerequisites: 311 and 312; Math. 109 or Econ. 289; Stat. 332 or 221; or equivalent. Bateman

A study of the mathematical techniques and methods employed to give empirical content to the a **priori** reasoning in economics which is quantifiable.

511. Advanced Theory of Income, Employment, and the Price Level. (3:3:0) F. (m) Prerequisites: Econ. 311 or 301, Math. 109 or Econ. 289. Wirthlin

An advanced course in the theory of income and employment. Considerable emphasis will be placed on the most recent advances made in this area of study. Journal articles will be extensively used.

512. Advanced Price Theory. (3:3:0) S. (m) Prerequisites: Econ. 312 or 302, Math. 109 or equivalent. Bateman, Wimmer

An advanced course in price theory which will use recent journal articles as a frame of reference for discussion periods.

☐**Agricultural Economics 525. Production Economics.** (2:2:0)

535. Economic Problems of Asia. (3:3:0) S. (m) Prerequisites: Econ. 111 and 112 or equivalent. Ogata

558. International Trade and Finance. (3:3:0) F. (m) Prerequisite: Econ. 312 or equivalent. Doxey, Wirthlin

575. Theory of Public Finance. (3:3:0) S. (m) Prerequisite: Econ. 312 or equivalent.

An analysis of expenditures and taxation in the public sector.

582. Business and Economic Fluctuations. (2:2:0) S. (m) Bateman

588. Econometrics. (2:2:0) S. (m) Prerequisites: Econ. 488 or Math. 109, Stat. 332 or 221 or equivalent. Bateman

An advanced course in econometrics in which the use of calculus, matrix algebra, etc., is employed to analyze the quantifiable theorems of economic theory.

589. Advanced Mathematical Economics. (3:3:0) S. (m) Prerequisites: Econ. 311 and 312, Stat. 332 or 221, Math. 109 or equivalent.

A graduate course in the study of the application of mathematical tools to the quantifiable elements of economic theory.

590. Advanced Economic Problems. (1-3:Arr.:Arr.) F.S.Su. Prerequisites: Econ. 111 and 112 or equivalent.

601. Workshop on Economic Education. (2-3:Arr.:Arr.) Su.

615. Advanced History of Economic Thought. (3:3:0) S. (m) Prerequisite: Econ. 415 or consent of instructor. Davies, Wirthlin

An advanced course in the development and evolution of the theoretical and institutional tools of economic analysis.

617. Contemporary Economic Thought. (2:2:0) S. (m)

630. Advanced Economic Development. (3:3:0) S. (m) Bateman, Wirthlin

691. Seminar in Economic History. (2:2:0) S. (m) Doxey, Wimmer

692. Seminar in Monetary and Fiscal Policy. (2:2:0) F. (m) Prerequisite: Econ. 311 or equivalent.

693. Seminar in Comparative Economic Systems. (2:2:0) S. (m) Nelson

694. Seminar in Labor Economics and Labor Relations. (2:2:0) S. (m) Davies

695. Seminar in Urban Economics. (3:3:0) F. (m) Nelson, Rickenbach

696, 697. Research. (1-3:Arr.:Arr.) F.S.Su.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.)

Students in front of Jesse Knight Building

Electrical Engineering Science

Professors: Clegg, Jonsson, Losee (chairman, 173 ELB).

Associate Professors: Berrett, Humphreys, Miner, Monson, Woodbury.

Assistant Professors: Bowman, Chaston, Ward, Watts.

Instructor: Longwell.

The Electrical Engineering Science Department offers a professional program leading to the degrees of Bachelor of Engineering Science, Master of Science, and Doctor of Philosophy. The curriculum is fully accredited by the Engineers' Council for Professional Development (ECPD) as a professional engineering curriculum. Course work in the curriculum is based on a scientific foundation provided by preprofessional work in mathematics, physics, and chemistry. The professional course work provides an up-to-date balance of theory and laboratory work. Through the scientific foundation and the wide scope of engineering work studied, this program provides its graduates with training sufficient to stay current in this rapidly changing field. Students completing the undergraduate curriculum are prepared to go on to advanced degrees or to design, management, production, or research work in industry.

Students desiring a less scientific, nonprofessional program which emphasizes detailed, technical work and which does not lead to an engineering degree should consult the College of Industrial and Technical Education Section of this catalog. Because the mathematics, physics, and technical courses taken in the program of that college are not accepted in the engineering programs, transfers from the College of Industrial and Technical Education to the College of Physical and Engineering Sciences will usually require additional time for make-up work.

Subject fields in the Electrical Engineering Science Department include communications, electronic circuits, solid state theory, energy conversion, automatic control, analog and digital computer design, and acoustics. The communications area includes concepts applicable to radio, television, radar, telephone, and telegraphy systems. Electronic circuits include the study of transistors and other solid state devices, vacuum tubes, and the circuitry associated with each. Solid state theory includes ideas applicable to transistor and integrated circuit design. Energy conversion includes the study of motors, generators, distribution equipment, and power systems. Automatic control covers such topics as servomechanisms, control devices, and systems theory. Each undergraduate student chooses a specialty in an area such as those listed above.

The extensive background of the faculty will prove valuable to those who wish to undertake special projects in their undergraduate work or research topics in their graduate work. Seminar work and participation in technical meetings sponsored by student organizations provide a rich beginning to a professional career in electrical engineering. Professional opportunities exist in research, development, design, sales and application engineering, teaching, and business management.

Entrance Requirements

All students must meet the admission requirements of the University as outlined earlier in this catalog. As each student prepares to enter E.E. 311 his previous work is reviewed in a personal interview with his faculty adviser.

Grade Requirements

A student desiring a Bachelor of Engineering Science degree must complete work satisfying the general education requirements set by the University and technical requirements set by the Electrical Engineering Science Department. His cumulative grade-point average must be 2.0 (C) or better.

In addition, the department requires a cumulative grade-point average of 2.0 or better in mathematics, physics, and engineering subjects. No more than 6 hours of "D" credit in electrical engineering courses will be counted toward graduation.

General Education Requirements

Engineering science students are subject to all of the general education requirements listed in this catalog, with the following exceptions and comments:

(1) The biological science requirement may be reduced to four semester hours instead of the six semester hours specified.

(2) Electrical engineering students are encouraged to take full advantage of the four hours of religion credit that may be given for attending devotional assemblies for a period of four years.

(3) It is particularly recommended that the student take Econ. 101 and Psych. 111 in satisfying the social science group requirement.

(4) Students should not attempt to complete the general education requirements early. It is of extreme importance to maintain constant progress in the technical areas because of prerequisite structure. This applies to all students including those who expect to interrupt their schooling for missionary work or military service.

Departmental Course Requirements for Bachelor of Engineering Science

The departmental course requirements for graduation with a Bachelor of Engineering Science degree are listed as follows:

	Credit Hours
Chem. 105, 106	8
Physics 121, 122, 221, 222	14
Math. 112, 113, 214, 321, 322, 323	20
Stat. 322	2
C.E. 101, 201, 303, 304	11
Ch. E. 378	3
M.E. 301, 302	6
E.E. 100, 221, 222, 311, 312, 341, 411, 431, 432, 442, 450, 460, 461, 541, 591, 592	45
E.E. courses from an approved option	9

Participation in field trips is required of undergraduate students nearing graduation. Each student should budget time and funds for this purpose. Further details are available in the department office.

A student with adequate high school preparation may be excused by examination from Health 130, Hist. 170, and C.E. 101. This would reduce the minimum required course hours to 155. If a student has not had adequate preparation in mathematics to permit him to begin his college work at the level of analytical geometry and calculus (Math. 112), he will be required to take additional mathematics, including as a minimum college algebra and trigonometry (Math. 111).

Students requiring preparation in college algebra and trigonometry should not enroll in Math. 105 and 106, but instead should take Math. 111.

Although the curriculum is accredited as a five-year program, with proper fulfillment of entrance requirements a well-qualified student can complete the Bachelor of Engineering Science program in four calendar years or the Master of Science program in five calendar years. These degrees are awarded for having attained an acceptable level of professional competence rather than for the number of years of attendance. Beginning students with inadequate high school preparation will require additional time to complete the degree requirements. A wide variety of suggested sequences of courses is available from the department office. Two typical undergraduate programs are shown below.

Sequence of Courses for Majors

Bachelor of Engineering Science Program

Program for students prepared to begin in Math. 112:

First Year

	F	S
E.E. 100	1	
Math. 112, 113	4	4
Physics 121, 122	3	3
Engl. 111, 112	3	3
Undergrad. Relig. 121, 122	2	2
Health 130	2	
Group elective		2
C.E. 101		2
P.E.	½	½
Dev. assy.	½	½
	16	17

Second Year

	F	S
E.E. 221, 222	1	1
E.E. 311		5
Math. 214, 321	3	3
Physics 221, 222	4	4
C.E. 201		3
Undergrad. relig.	2	
Group electives	5	
P.E.	½	½
Dev. assy.	½	½
	16	17

Third Year

	F	S
E.E. 312	5	
E.E. 341, 442	4	5
Math. 322, 323	3	3
Chem. 105, 106	4	4
C.E. 304		3
Undergrad. relig.		2
Dev. assy.	½	½
	16½	17½

Fourth Year

	F	S
E.E. 541	4	
E.E. 431, 432	4	3
E.E. 450		2
E.E. 460, 461	3	3
E.E. 591		1
M.E. 301, 302	3	3
Ch.E. 378		3
Undergrad. relig.	2	2
Dev. assy.	½	½
	16½	17½

Fifth Year

	F
E.E. 411	2
E.E. 592	1
E.E. options	9
C.E. 303	3
Stat. 322	2
	17

Any Summer

Group electives	9
Hist. 170	3
	12

Program for students prepared to begin in Math. 111:

First Year

	F	S
E.E. 100	1	
Math. 111, 112	5	4
Physics 121		3
Engl. 111, 112	3	3
Undergrad. Relig. 121, 122	2	2
C.E. 101		2
Hist. 170	3	
Group elective		2
P.E.	½	½
Dev. assy.	½	½
	15	17

Second Year

	F	S
E.E. 221, 222	1	1
Math. 113, 214	4	3
Physics 122, 221	3	4
Undergrad. relig.	2	2
Group electives	6	3
Health 130		2
P.E.	½	½
Dev. assy.	½	½
	17	16

Third Year

	F	S
E.E. 311, 312	5	5
Math. 321, 322	3	3
C.E. 201, 304	3	3
Chem. 105, 106	4	4
Undergrad. relig.	2	2
Dev. assy.	½	½
	17½	17½

Fourth Year

	F	S
E.E. 341, 442	4	5
E.E. 431, 432	4	3
Math. 323		3
E.E. 591		1
Physics 222	4	
M.E. 301, 302	3	3
Group elective	2	
Stat. 322		2
Dev. assy.	½	½
	17½	17½

Fifth Year

	F	S
E.E. 411	2	
E.E. 450		2
E.E. 460, 461	3	3
E.E. 541	4	
E.E. 592	1	
E.E. option	3	6
Ch.E. 378	3	
Group electives		3
C.E. 303		3
	16	17

Engineering students may register for up to 18 hours exclusive of physical education and forum and devotional assemblies in any one semester without obtaining special permission from the dean of the college.

Electrical Engineering Option

All candidates for the Bachelor of Engineering Science degree must complete nine semester hours within an option selected from those listed below.

Communications
E.E. 462, 467, 511, 512, 513, 550, 562, 563, 564, 567, 598.

Computers
E.E. 513, 523, 528, 542; Math. 311; Comput. Sci. 431, 451, 571; E.E. 598; Math. 411, 412.

Electronics and solid state theory
E.E. 511, 512, 513, 542, 550, 552, 567, 598; Physics 551.

Energy conversion and systems applications
E.E. 513, 516, 517, 531, 532, 537, 598; C.E. 571; M.E. 521.

Management
Acctg. 342; Bus. Mgt. 321, 340; Econ. 361; Psych. 330, 336; C.E. 571; Engl. 316; Aero. Stud. 410, 411; Mil. Sci. 420, 421.

Other
A student with special needs and desires may arrange a 9-semester-hour option with his faculty adviser.

Master of Science Requirements

The master's degree is growing in importance, particularly in the research and development-oriented areas of the electrical engineering profession. Each student is therefore encouraged to consider continuing to the Master of Science degree. The following is a brief listing of requirements for the Master of Science degree in electrical engineering:

	Hours
E.E. 513	3
Mathematics	6
Other technical courses, including thesis	21
Total	30

Undergraduate students electing the Master of Science program may commence earning graduate credit during the last year of undergraduate work. At this time E.E. 513 should be taken under the E.E. option. E.E. 513 may then be reserved for graduate credit. Both bachelor's and master's degrees will be granted as the specific requirements are fulfilled.

A student must formally apply for admission to the Graduate School to pursue the Master of Science degree. The Graduate Catalog contains details of Graduate School requirements.

Doctor of Philosophy Requirements

For all details pertaining to requirements for this degree see the section of the Graduate School Catalog entitled Engineering Sciences: Ph.D. Program in Engineering.

Courses

100. Introduction to Electrical Engineering. (1:1:0) F.
Introduction to the fields and profession of electrical engineering. Study of elementary engineering problems. Slide rule techniques.

221, 222. Numerical Solutions in Electrical Engineering. (1:1:0 ea.) F.S. Prerequisite: Previous or concurrent registration in Math. 112.
Beginning FORTRAN programming and the numerical solutions of elementary electrical engineering problems.

301. Elements of Electrical Engineering. (2:2:0) F.S. Prerequisites: Physics 213 or 221, Math. 321, concurrent registration in Math. 322.
For students not majoring in electrical engineering. Study of linear electrical circuits based on Laplace transforms.

302. Elements of Electrical Engineering. (2:2:0) F. Prerequisite: E.E. 301.
Study of polyphase circuits, magnetic circuits, DC and AC machines, and transformers.

303. Elements of Electrical Engineering Laboratory. (1:0:3) F. Prerequisite: concurrent registration in E.E. 302.
A series of energy conversion experiments designed to parallel E.E. 302.

304. Elements of Electrical Engineering. (2:2:0) S. Prerequisite: E.E. 301.
Study of solid state and vacuum tube circuits.

305. Elements of Electrical Engineering Laboratory. (1:0:3) S. Prerequisite: concurrent registration in E.E. 304.
A series of laboratory experiments related to solid state devices, vacuum tubes, and instrumentation circuits designed to parallel E.E. 304.

306. Analog Computer Techniques. (1:1:0) F.S. Prerequisites: Physics 213 or 221, Math. 321.
An introduction to the simulation of engineering problems on an analog computer.

307. Digital Computer Techniques. (1:1:0) F.S. Prerequisite: previous or concurrent registration in Math. 112.
An introduction to digital computer programming and techniques.

311, 312. Linear Circuit Analysis. (5:4:3 ea.) F.S. Prerequisites: Physics 213 or 221; Math 214; previous or concurrent registration in E.E. 221 and Math. 321, 322.
Transient and steady-state analysis of linear circuits based on complex variable and Laplace transforms.

341. Electronic Circuits and Devices I. (4:3:3) S. Prerequisite: E.E. 311.
The physical characteristics of solid state devices and tubes with selected applications.

411. Feedback Concepts. (2:2:0) F. Prerequisites: C.E. 304 or 302; Math. 323, and either (a) E.E. 432 and E.E. 442 or (b) E.E. 302 and 304.
Consideration of basic feedback concepts as applied to engineering systems. Root-locus, log magnitude, and phase criteria are presented as useful tools for analysis and design.

431, 432. Electrical Energy Conversion. (4:4:0, 3:2:3) F.S. Prerequisite: E.E. 312.
Magnetic circuits and magnetic amplifiers, single phase and polyphase transformers; energy conversion principles, DC and AC motors and generators; control system components.

442. **Electronic Circuits and Devices II.** (5:4:3) F. Prerequisite: E.E. 341.
Applications of solid state devices and vacuum tubes.

450. **Electrical Properties of Materials.** (2:2:0) S. Prerequisite: E.E. 442.
Electrical properties of crystalline solids.

460, 461. **Electromagnetics.** (3:3:0 ea.) F.S. Prerequisite: Math. 323.
Classical static and dynamic electricity and magnetism; Maxwell's equations and their applications in electromagnetic engineering; antennas.

462. **Communication Circuits.** (3:3:0) F. Prerequisites: E.E. 541, and concurrent registration in E.E. 467.
Circuits and systems used in radio, television, and radar including microwave hardware and network theory.

467. **Communications Laboratory.** (2:0:6) F. Prerequisite: concurrent registration in E.E. 462.
Devoted to building and testing circuits studied and designed in E.E. 462.

511, 512. **Network Synthesis.** (3:3:0 ea.) F.S. Prerequisites: E.E. 312, 442.
Approaches to the design of 2-terminal and 4-terminal networks. Means of meeting insertion loss and phase shift requirements.

513. **Linear Systems.** (3:3:0) F. Prerequisite: graduate standing or consent of instructor.
State-space and transform techniques in the analysis of linear systems.

516. **Servomechanisms.** (3:3:0) Arr. Prerequisite: E.E. 411.
Application of design principles, carrier systems, component description and specification, multiloop problems including signal flow graphs and synthesis.

517. **Digital and Sampled-Data Control Systems.** (3:3:0) Arr. Prerequisite: E.E. 411.
Basic theory and techniques for the analysis and design of digital and sampled-data control systems and related problems based on the Z-transform method.

523. **Digital Computer Design.** (3:3:0) F. Prerequisite: E.E. 222.
The operation and logical design of digital computers.

528. **Analog Computer Design.** (2:2:0) Arr. Prerequisite: E.E. 304 or 442.
Theory and operation of summing, integrating, and differentiating circuits; function generators and operational amplifiers and their applications to analog computers.

531. **Electric Power Systems I.** (2:2:0) Arr. Prerequisite: E.E. 432 or instructor's approval.
The fundamentals of electrical power systems, generalized circuit constants, symmetrical components, and fault studies.

532. **Electric Power Systems II.** (3:3:0) Arr. Prerequisite: E.E. 531.
Characteristics of electric power system components, additional fault study considerations, introduction to power system stability, DC transmission.

537. **Advanced Control Machinery Laboratory.** (1:0:3) S. Prerequisite: E.E. 411.
This course constitutes a block of experiments in the area of machinery control systems, machinery characteristics, and power distribution methods.

541. **Switching, Timing, and Pulse Circuits.** (4:3:3) S. Prerequisite: E.E. 442.
Passive and active electronic circuits utilizing vacuum tubes, transistors, and other devices, with emphasis on nonlinear modes of operation.

542. **Advanced Switching and Pulse Circuits.** (3:3:0) F. Prerequisite: E.E. 541.
Theory of switching, shaping, memory, and function generation in electronic circuitry. Negative resistance devices and circuits, delay lines, pulse transformers, and logic.

550. Solid State Electricity. (4:4:0) F. Prerequisites: Ch.E. 378, Physics 315 or 222.

Physical properties of crystalline solids, lattice vibration and energy dielectrics, conduction, band theory, semiconductors emission, magnetism, resonance, and relaxation phenomenon.

552A,B,C. Semiconductor Laboratory. (1-2:0:3-6) F.S.Su. Prerequisite: E.E. 450 or E.E. 550.

Experimental investigation of semiconductor materials including basic measurements and construction of electronic devices. Successive courses may be taken to a total of three credit hours.

562, 563. Advanced Communications Theory. (3:3:0 ea.) F.S. Prerequisite: E.E. 462.

Transmission through electric networks, periodic sampling, pulse modulation, analysis of information transmission systems, and noise considerations.

564. Radar Systems. (3:3:0) S. Prerequisite: E.E. 462.

Radar systems and their application, including prediction of radar range performance, study of major components constituting a radar and development of system engineering concepts.

567. Advanced Communications and Electronics Laboratory. (1:0:3) S. Prerequisite: E E. 462.

This course constitutes a block of experiments in the area of U.H.F. techniques, electronic circuits, communication systems, pulse forming networks, transmission lines and filters.

580. Elements of Acoustics. (2:2:0) Arr. Prerequisite: E.E. 312.

Fundamentals of sound production, transmission, and reception with an introduction into sound application in public address and other engineering systems.

587. Architectural Acoustics. (3:3:0) Arr. Prerequisites: Physics 561, 562 or E.E. 580.

Fundamental behavior of sound in rooms; effects of shape and size on perception of speech and music; proper use of public address and sound reinforcing systems, sound absorption and insulation properties of different kinds of room walls; kind and amounts of sound absorption materials to use in sound treatment of rooms and auditoriums.

591, 592. Seminar and Field Trips. (1:2:0 ea.) F.S. Prerequisite: E.E. 442.

Student and faculty presentation of special topics and subjects of current interest; visits to industries displaying varied types of engineering applications. Participation on the annual field trip is required.

598A,B,C,D. Special Problems and Topics. (1-2:Arr.:Arr. ea.) S.Su. Prerequisite: consent of instructor.

Registration by permission of professor sponsoring problem.

618. Nonlinear Analysis. (3:3:0) F. Prerequisite: E.E. 411.

Consideration of nonlinear differential equations; problems of discrete systems, design in the phase plane; adaptive control systems; dynamic programming.

619. Nondeterministic Control Systems. (3:3:0) S. Prerequisite: E.E. 411.

Statistical design principles, decision theory, competitive situation, queuing systems, and linear programming as applied to control systems.

623. Advanced Digital Computers. (3:3:0) S. Prerequisite: E.E. 523.

Advanced theory and operation of digital computers and their design and application to engineering, scientific, and control systems.

645, 646. Microwave Devices. (3:3:0 ea.) F.S. Prerequisite: E.E. 461.

Consideration is given electron beam and solid state devices which operate at microwave frequencies.

661, 662. Advanced Electromagnetic Fields. (3:3:0 ea.) F.S. Prerequisite: E.E. 461.

A study of the methods of solution of electromagnetic field problems including wave propagation, waveguides, cavities, slow wave structures, plasmas, antennas and field-related devices.

697. Master's Candidate Research. (1-4:Arr.:Arr.) F.S.

Master's candidate research not associated with thesis.

698. Readings and Seminar. (1:1:0) Arr. Prerequisite: graduate standing.

Presentation of literature studies or research results by graduate student or faculty. Unrelated to the master's thesis.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) Arr. Prerequisite: graduate standing.

This course is intended to include all work related to the master's thesis; i.e., literature study, research, and writing.

791A,B,C,D. Seminar for Doctoral Students. (1:1:0 ea.) F.S.

794. Selected Topics in Electrical Engineering. (1-3:Arr.:Arr.) Arr.

797. Research for Doctoral Students. (Arr.) Arr.

799. Dissertation for Doctoral Students. (Arr.) Arr.

Computer installation in the engineering analysis center

English

Professors: R. Britsch, B. Clark, M. Clark, Cheney, Christensen (emeritus), Farnsworth, Hart, Jacobs, Larson, Spears, R. Thomas, Thomson, West (chairman, A-246 JKB), Young.

Associate Professors: Brady, Calder, Cox, Ellsworth, Gassman, J. B. Harris, McKendrick, Tanner (emeritus), J. Thomas, Wood.

Assistant Professors: Alder, B. Best, Blanch, Craig, Esplin, Evans, Grass, J. S. Harris, Herndon, Horton, Lambert, McIntyre, McKellar, Mitchell, Morrell, Olson, Ridenhour, C. Tate, Thayer, Waterstradt, Wight, Williams, Wilson.

Instructors: Ballantyne, Bell, Bennion, L. Best, Cracroft, Davis, Goff, Hall, Hayes, Hill, Howe, Hunsaker, MacKay (emeritus), Nielsen, Norton, Parker, Ream, Smith, C. Taylor, J. Taylor, Wahlquist, Walker.

Freshman English

(Soren Cox, coordinator)

All students are required to take freshman composition during both semesters of the freshman year unless they are excused by the dean of the college in which they are registered and the coordinator of freshman English.

Placement Test. Freshmen are assigned to English classes on the basis of performance on the American College Test and high school grades in English.

Freshman Composition and Reading. To satisfy the University requirement for freshman composition and reading, all students must complete one of the following sequences: Engl. 111 (or G.C. 105), 112; or Engl. 115, 116. Students who demonstrate a need for remedial work take G.C. 105 and Engl. 112; students who demonstrate satisfactory ability take Engl. 111, 112; students who demonstrate exceptional ability take Engl. 115, 116; students in the Honors Program take Engl. 115, 116.

Requirements for an English Major

All students majoring in English must complete at least thirty-five semester hours in English beyond freshman composition and reading. The following program is prescribed:

		Hours
A.	Engl. 251. Fundamentals of Literature	3
B.	Engl. 221. English Grammar or Engl. 321. Studies in English Grammars	3
C.	Engl. 361 or 362. American Literature	4
D.	Engl. 371 or 372 or 373. Early English Literature	3-4
E.	Engl. 374 or 375. Later English Literature	4
F.	Engl. 382 or 582. Shakespeare	3
G.	Engl. 490. Senior Seminar for English Majors	2
H.	At least two courses selected from the following: Engl. 332, 333, 335, 336, 338, 341, 342, 343, 350, 355, 356, 359, 364, 366, 367, 380, 381, 383, 420, 450.	

I. Sufficient additional courses chosen in consultation with the student's departmental adviser to bring the total in English to at least thirty-five semester hours. (Note: All English courses numbered in the 300, 400, and 500 levels, including courses listed as alternates in C, D, and E, above, may be counted toward the thirty-five hour total except Engl. 377 and 479, which count as education courses; but only the following courses numbered below 300 may be counted: Engl. 215, 218, 221, 251.) No more than six credit hours in writing courses beyond freshman English (Engl. 215, 218, 315, 316, 318, 319, 518) may be counted toward filling the thirty-five hours required for an English major.

The program for English majors is sufficiently flexible that a student not only may elect a traditional emphasis in English literature, but, if he chooses, may emphasize American literature or contemporary literature and creative writing or comparative literature or English language. A booklet entitled "The English Major at BYU" outlining these programs is available on request.

The department provides a minimum reading list which the English major should obtain and begin to employ early in his academic program. During the semester prior to his graduation, he will be given a departmental examination based on the reading list, the senior seminar, and his overall major program.

In addition to the requirements listed above, each English major is expected to complete at least six to eight hours of one foreign language. (Only those language courses numbered 102 and above, or equivalent courses at other universities, will apply toward fulfilling this requirement.) All graduating English majors will be awarded the Bachelor of Arts degree. No more than six hours of D grade in English may be applied toward the completion of requirements for the English major.

Recommended Supporting Courses for English Majors

Although nearly all scholarly disciplines can contribute importantly to the intellectual background which an English major should acquire, certain courses taught in other departments have particular values for English majors. Usually these courses can be chosen to fill a student's general education group requirements without increasing his overall requirements for graduation. The following courses are some of those which are strongly recommended by the English Department: Classical Civilization 341, Greek and Roman Mythology; Hist. 335, England; Speech and Dram. Arts 121, Voice, Diction, and Interpretation; Speech and Dram. Arts 325, Advanced Interpretation; Humanities 201, 202, The Arts in Western Culture; Phil. 380, Survey of Philosophy; Phil. 476, Contemporary Continental Philosophy.

Students should consult with their advisers about other courses which would be particularly beneficial in supporting their individual programs for the English major.

Requirements for a Teaching Major in English

The requirements for a teaching major in English and for the regular major are exactly the same except that the student completing a teaching major must take the courses required for teacher certification as outlined by the College of Education.

English is one of the subjects comprising the composite major in language arts designed for prospective teachers. (See College of Education.)

Recommendation on a Minor to Be Selected by English Majors

In filling the University requirement for a minor, an English major who is not a teaching major may complete a regular departmental minor in any department of the College of Humanities, the College of Social Sciences, or the College of Fine Arts and Communications, or in philosophy or library science. English teaching majors must complete a teaching minor in a related field, as specified above for a nonteaching major, consisting of 16 or more hours of designated courses in a subject also taught in the secondary schools of Utah and approved by the College of Education. For further information, see Teacher Education Section.

Any departmental minor for the English major other than those specified above must be approved by the student's adviser and the chairman of the English Department.

Requirements for a Minor in English

Students planning a teaching minor in English must complete Engl. 221 or 321, 275, 360, 370, and sufficient electives to make the total work in English beyond freshman composition at least twenty semester hours. Other students minoring in English may select from the courses approved for a minor courses totaling at least fourteen semester hours beyond freshman composition and reading. A minimum of six of the fourteen hours must be in upper-division courses. Such courses should be selected in consultation with the student's major department adviser and, if desired, a member of the English Department faculty.

Graduate Work in English

For qualified students seeking the M.A. degree in English, attractive scholarships, fellowships, and part-time teaching assistantships are available. Inquiries regarding these should be addressed to the chairman of the English Department.

A graduate student may major in either English or American literature; he may minor in a subject outside the English Department such as linguistics, or in English literature, American literature, comparative literature, or English language. In addition, he should complete the University requirements for the Master of Arts degree, which is the only graduate degree offered in the English Department. He should have reading proficiency in French or German or in another foreign language approved by the department.

Among the thirty hours required for a Master of Arts degree, each student must take the following courses:

		Hours
A.	Engl. 615. Bibliography and Methods of Research	2
B.	Engl. 624. Old English	3

The following courses must also be included if the student did not have such courses as an undergraduate:

A.	Engl. 421 The History of the English Language	3
B.	Engl. 450 or 650. Literary Criticism	3

In fulfilling the thesis requirements for a master's degree in English, a student may select any one of the following three options:

(1) One long thesis on a topic demanding research, criticism, or both;
(2) Three long papers written in three different areas of English or American language or literature and on topics demanding research, criticism, or both;
(3) Two long papers written in two different areas of English or American language or literature and on topics demanding research, criticism, or both; and a substantial creative work.

The work done under any of the above three options is under the direction of the student's advisory committee and must fulfill all of the requirements of form, date of submission, and binding that apply to a regular master's thesis.

The department stipulates that two hours of "B" grade or better in the series of Engl. 318, 319, or 518, or the equivalent directed experience in writing, be regarded as prerequisite for application to use imaginative writing as part of option (3) listed above. With this application, the student must forward to the graduate committee in English samples of his best writing in order that the committee may determine whether he is qualified to use imaginative writing as part of his thesis requirement.

General Education Courses in Literature

An undergraduate student filling his general education requirement in the humanities and fine arts area may take any literature course for which he has the proper background and prerequisites. See also Humanities.

Courses

10. Preparatory English. (0:2:0) (Off-campus courses only.)
Drill in essentials of English for students not prepared for Engl. 110 or 111.

15. Remedial English for Juniors. (0:3 for ½ semester:0) F.S.Su. Home Study also. J. S. Harris
Intensive review of the essentials of composition for students who have failed the Junior English Proficiency Examination. (Fee $15.00)

99. Problems in Thesis Writing. (0:2:0) F.S.Su. Evans
Composition course designed specifically for the writer of a thesis or other graduate paper, with emphasis on organization, sentence structure, correctness, and preciseness.

101. English as a Second Language. (3:5:5) F.S. Young
Designed to develop proficiency in English as a second language. Reading review of major constructions; intonation, pattern drills. Goal: the use of English in free composition. (Completion of Engl. 101 and 102 will satisfy the requirement for credit in freshman English.)

102. English as a Second Language (Composition). (3:3:3) F.S. Young

111, 112. Composition and Reading. (3:3:0 ea.) F.S.Su. Home Study also. Cox
Course in reading and writing designed for development of skills of effective writing, of critical awareness of the resources of the language, and of skill in reading rapidly and critically. Review of grammar, readings, weekly themes, and long library paper.

115, 116. Composition and Reading. (3:3:0 ea.) F.S. Cox
Alternate course to Engl. 111, 112 designed for students who show superior ability and training in composition.

215. Expository Writing. (2:2:0) F.S. (m) Prerequisite: Engl. 112 or 116.
Basic composition course intended to develop clarity, precision, and style in factual writing.

218. Creative Writing. (2:2:0) F.S.Su. Home Study also. (m) Prerequisite: Engl. 112 or 116. Bell, Morrell, Thayer
Composition course intended to develop expressive skill and power through writing of short stories, poems, dramas, and/or informal essays.

221. English Grammar. (3:3:0) F.S.Su. Home Study also. (m) Prerequisite: Engl. 112 or 116. Students who have a good knowledge of traditional English grammar should consider taking Engl. 321 as an alternate. West

225. Vocabulary Building. (2:2:0) F.S.Su. Home Study also. (m) Horton, Wahlquist
Service course intended to develop an effective vocabulary through study of prefixes, suffixes, and roots.

250. Introduction to Literature. (3:3:0) F.S.Su. (G-HA m) Prerequisite: Engl. 112 or 116. Howe
Various types of literature—short story and novel, poetry, essay, biography, and drama—with a critical reading and analysis of significant examples of each type. English teaching minors should not take this course.

251. Fundamentals of Literature. (3:3:0) F.S.Su. Home Study also. Prerequisite: Engl. 112 or 116. M. Clark
Basic course in literary appreciation and criticism, literary terminology, and interpretive writing. Required of all English majors and recommended for humanities majors and for students in the Honors Program. Should be taken in the sophomore year.

252. Introduction to Poetry. (2:2:0) F.S. (G-HA m) Prerequisite: Engl. 112 or 116. Evans, Larson, Morrell

Appreciation course in poetry, emphasizing critical reading and analysis of significant poems of various types.

253. Introduction to Drama. (2:2:0) F.S. (G-HA m) Prerequisite: Engl. 112 or 116. Ridenhour, Waterstradt

Appreciation course in drama, with attention given to various forms—tragedy, comedy, farce, melodrama, and modern problem play—and with a critical reading of famous examples of each type.

254. Introduction to Biography. (2:2:0) S. (G-HA m) Prerequisite: Engl. 112 or 116. Young

Short biographies of some famous statesmen, patriots, adventurers, scientists, inventors, painters, writers, and others, including Hitler, Napoleon III, George III, Edison, Wilson, Jefferson, Lincoln, Goethe, Gaugin, the Curies, John Brown, and Dolly Madison.

260. Masterpieces of American Literature. (3.3:0) F.S.Su. Home Study also. (G-HA m) Prerequisite: Engl. 112 or 116. Lambert

Selected readings in American literature from colonial times to the present. English teaching minors should not take this course.

270. Masterpieces of English Literature. (3:3:0) F.S.Su. Home Study also. (G-HA m) Prerequisite: Engl. 112 or 116. Grass

Selected readings in English literature from medieval times to the present. English teaching minors should not take this course.

275. English Literature I: From Beowulf through Shakespeare. (5:5:0) F.S.Su. (m) **Intended for English Teaching Minors.** Others admitted by the consent of instructor. Prerequisite: Engl. 112 or 116. Waterstradt

Introduction to literary criticism—principles of analysis, interpretation, and evaluation—followed by a critical study of English literature from Beowulf through Shakespeare. Language development and interpretive composition also emphasized.

282. Shakespeare. (2:2:0) F.S.Su. Home Study also. (G-HA m) Prerequisite: Engl. 112 or 116. Grass

Appreciation course in Shakespeare, with an interpretive reading of about eight of his great dramas. English teaching minors should not take this course.

315. Advanced Expository Writing. (2:2:0) F.S. (m) Prerequisite: Engl. 215 or consent of instructor. Farnsworth, Hart

Advanced composition course designed for students who wish to extend and refine their skills in factual writing.

316. Technical Writing. (2:2:0) F.S. (m) Prerequisite: Engl. 112 or 116. J. S. Harris

Composition course intended to develop accuracy and skill in writing scientific pamphlets, articles, reports, and memoranda.

318. Writing of Fiction. (2:2:0) F.S.Su. Home Study also. (m) Prerequisite: Engl. 218 or consent of instructor. Thayer

Special development in the creation of style and technique in prose fiction; the discipline and practice of the writer; individual consultation.

319. Writing of Poetry. (2:2:0) F.S.Su. Home Study also. (m) Prerequisite: Engl. 218 or consent of instructor. Larson

Special development in the creation of style and technique in poetry; the discipline and practice of the poet; individual consultation.

321. Study in English Grammars. (3:3:0) F.S.Su. (m) Prerequisite: Engl. 221 or consent of instructor or department chairman. Alder, Cox, Norton

A basic course in modern grammars of English—descriptive, structural, and transformational—with study of the linguistic principles which support these applications of language study.

☐**Linguistics 325. Introduction to Descriptive Linguistics.** (3:3:0) F.S. (m) Alder

332. The English Novel from Defoe through Dickens. (3:3:0) F.S. Home Study also. (G-HA m) Brady, Gassman

English prose fiction from the beginnings to the midnineteenth century, with emphasis on Defoe, Richardson, Fielding, Smollett, Sterne, Scott, Austen, Trollope, Thackeray, the Brontës, and Dickens.

333. The Modern English Novel. (3:3:0) F.S. Home Study also (G-HA m) Brady, B. Clark

The English novel from the midnineteenth century to the present, with emphasis on George Eliot, Meredith, Hardy, Conrad, Bennett, Galsworthy, Lawrence, Maugham, Joyce, Woolf, Huxley, and several contemporary novelists.

335. The American Novel to Dreiser. (2:2:0) F.S. Home Study also. (G-HA m) Jacobs, Williams

Nineteenth-century American novelists, with emphasis on Cooper, Hawthorne, Melville, Twain, Howells, and James.

336. The Modern American Novel. (2:2:0) F.S. Home Study also. (G-HA m) M. Clark, McKellar

Twentieth-century American novelists, with emphasis on Dreiser, Cather, Lewis, Hemingway, Faulkner, Steinbeck, Wolfe, Fitzgerald, Dos Passos, and Warren.

338. The European Novel. (3:3:0) F. (G-HA m) Blanch, M. Clark

The works of the principal European novelists, including Cervantes, Flaubert, Zola, Turgenev, Dostoevsky, Tolstoy, Mann, Kafka, and others.

341. English Drama to 1642. (2:2:0) F. (G-HA m) Craig

Religious drama of the Middle Ages, court plays, and popular drama of the Renaissance, excluding Shakespeare.

342. Restoration and Eighteenth-Century Drama. (2:2:0) S. (G-HA m) Craig, Gassman, Wood

English drama from 1660 to 1800, with emphasis on high comedy, sentimental comedy, and heroic tragedy.

343. Modern English and American Drama. (2:2:0) F.S. (G-HA m) Craig, Ridenhour, Waterstradt

Major English and American dramatists since 1890.

350. The Bible as Literature. (2:2:0) F.S.Su. Home Study also. (G-HA m) Ellsworth, Olson, C. Tate

355. World Classics. (3:3:0) F.S.Su. (G-HA m) Britsch, Craig, McIntyre

Greek and Roman epic and drama and European classics of the Middle Ages and Renaissance, in translation, with emphasis on Homer, Aeschylus, Sophocles, Euripides, Virgil, and Dante.

356. World Classics. (3:3:0) F.S.Su. (G-HA m) Spears, Thomson

European masterpieces of neoclassicism, romanticism, realism, naturalism, and symbolism in translation.

359. The Short Story. (2:2:0) F.S.Su. Home Study also. (G-HA m) Cheney

Critical study of selected great short stories—American, English, and European—with emphasis on 20th-century stories.

360. American Literature from the Beginnings to the Present. (4:4:0) F.S.Su. (G-HA m) **Intended for English Teaching Minors.** Others admitted by consent of the instructor. Prerequisites: Engl. 112 or 116 and 275. Lambert, McKellar

Critical study of American literature from colonial times to the present, emphasizing major literary works and affording practice in interpretive writing.

361. Early American Literature. (4:4:0) F.S.Su. (G-HA m) Jacobs, Thomson, Williams

From the beginnings through writers of the midnineteenth century.

362. Later Nineteenth-Century American Literature. (4:4:0) F.S.Su. (G-HA m) Ellsworth, Jacobs, Thomson

From the midnineteenth century to the end of the century.

364. The Literature of the American West. (2:2:0) F.S. (G-HA m) Prerequisite: Engl. 112 or 116. Lambert

A critical study of important literature that utilizes frontier and western situations. Focuses on the special problems of the frontiersman and his literary creator.

366. Modern Poetry. (2:2:0) S. Home Study also. (G-HA m) Hart, Larson

Major English and American poets of the 20th century. May not be taken for credit by students who have had Engl. 380.

367. English and American Folk Ballads. (2:2:0) F. (G-HA m) Cheney

English and Scottish ballads and American folk songs.

370. English Literature II: From Donne through Eliot. (5:5:0) F.S.Su. (G-HA m) **Intended for English Teaching Minors.** Others admitted by consent of the instructor. Prerequisites: Engl. 112 or 116 and 275. Waterstradt

A critical study of English literature from John Donne through T. S. Eliot, emphasizing the major works of major authors. Language development and interpretive composition also emphasized.

371. English Literature to 1500: the Medieval Period. (3:3:0) F.S.Su. (G-HA m) McKendrick

English literature from its beginnings to 1500, with emphasis on its relationship to other European literature.

372. English Literature from 1500 to 1660: the Renaissance Period. (4:4:0) F.S.Su. (G-HA m) Larson, McIntyre, J. Thomas, G. Wood

English drama, poetry, and prose of the Renaissance period, including Milton but excluding Shakespeare.

373. English Literature from 1660 to 1780: the Classical Period. (4:4:0) F.S.Su. (G-HA m) Craig, Gassman, Hart

English literature from the Restoration through the Augustan Age of Reason to the beginnings of Romanticism, including works of Defoe, Swift, Fielding, Dryden, Pope, and Johnson.

374. English Literature from 1780 to 1832: the Romantic Period. (4:4:0) F.S.Su. Home Study also. (G-HA m) Cheney, B. Clark, J. B. Harris

English literature of the Age of Romanticism, including works of Burns, Blake, Wordsworth, Coleridge, Scott, Lamb, Byron, Shelley, Keats, and the Brontës.

375. English Literature from 1832 to 1900: the Victorian Period. (4:4:0) F.S.Su. (G-HA m) Brady, Britsch, B. Clark, Farnsworth

English literature of the middle and later 19th century, including works of Carlyle, Ruskin, Tennyson, Browning, Arnold, Dickens, Thackeray, George Eliot, the Rossettis, Fitzgerald, Morris, Swinburne, Meredith, Hopkins, Wilde, Hardy, and Housman.

377. Secondary Teaching Procedures. (3:3:3) F.S. Prerequisites: Engl. 221 or 321, 251 or 275 and Tchr. Ed. 301. Madsen, West

For course description and fee, see Tchr. Ed. 377.

380. Twentieth-Century Literature. (5:5:0) F.S.Su. (G-HA m) M. Clark, Hart, Larson

American, English, and some continental literature, with emphasis on American. May not be taken for credit by students who have had Engl. 366.

381. Chaucer. (3:3:0) S. (G-HA m) McKendrick

382. Shakespeare. (3:3:0) F.S.Su. (G-HA m) B. Clark, Farnsworth, Hart
From six to eight major plays studied intensively.

383. Milton. (2:2:0) F.Su. (G-HA m) C. Tate

391. Studies in Folklore. (3:3:0) F.Su. (m) Prerequisite: Engl. 112 or 116. Wilson
Content and scope of folklore; various genres (tale, legend, myth, ballad, etc.) and approaches to folklore, including fieldwork; folklore of both literate and nonliterate peoples.

420. Literature for Adolescents. (2:2:0) S.Su. (m) Hayes
Critical examination of the body of literature written for adolescent readers and of effective methods of teaching literature in the secondary schools. Intended especially for English teaching majors and minors.

421. History of the English Language. (3:3:0) F.Su. (m) Cox, McKendrick
Descriptive study of the English language in the various stages of its development, with background of related historical events. Strongly recommended for students who intend to do graduate study in English.

426. Semantics. (2:2:0) F. (m) Evans
An introduction to general semantics, with particular focus on the way in which words influence thought and behavior.

450. The Criticism and Appreciation of Literature. (3:3:0) S.Su. (m) M. Clark, Hart
Critical theories and standards of value. Strongly recommended for students who intend to do graduate study in English.

479. Secondary Student Teaching. (4-8:1:20-40) F.S. Prerequisite: Engl. 377. Calder, McKendrick, West
For course description and fee, see Tchr. Ed. 479.

490. Senior Seminar for English Majors. (2:2:0) F.S.Su. M. Clark

495. Individual Readings. (1-3:2-8:0) F.S.Su.
Available only on approval of the student's adviser to English majors and to students on foreign tours.

500A,B,C,D, etc. Eminent American Writers. (1:1:0 ea.) F.S.Su.
Different writers are treated each semester in this series.

510A,B,C,D, etc. Eminent English Writers. (1:1:0 ea.) F.S.Su.
Different writers are treated each semester in this series.

518A,B,C,D. Advanced Creative Writing. (2:2:0 ea.) F.S. Prerequisite: Engl. 318 or 319 or consent of instructor. Larson
A seminar in the writing of fiction, poetry, drama, and the essay; individual consideration of manuscripts; professional orientation. May be repeated for credit with the consent of the instructor.

529. Structure of American English. (3:3:0) F.Su. Prerequisite: Engl. 321 or Linguistics 325, or the consent of the instructor. Cox
Application of the methods of linguistic science to the description of the phonology, morphology, and syntax of American English.

572. European Literature of the Renaissance. (3:3:0) S. 1969. Evans, Spears
A comparative study of continental European literature of the Renaissance in its relations to English literature.

573. European Literature of the 17th and 18th Centuries. (3:3:0) S. 1970. Evans, Spears
A comparative study of continental European literature of the 17th and 18th centuries in its relations to English literature.

574. European Literature from 1760 to 1850. (3:3:0) F. 1968.
Farnsworth, Spears
A comparative study of the romantic movements in England, Germany, France, Spain, and Italy.

575. European Literature from 1832 to 1914. (3:3:0) F. 1969.
Farnsworth, Spears
A comparative study of English, German, French, Spanish, and Russian literature of this period, including naturalism, realism, and symbolism.

577. Procedures in Teaching English as a Second Language. (3:3:3) F.S. Prerequisites: Engl. 321 or 529 or Linguistics 423. Young
Designed to acquaint students with methods and materials used in teaching English as a second language. Students will observe, discuss methods, and do some teaching.

582. Extended Readings in Shakespeare. (3:3:0) S. Farnsworth, Young
Extensive study of the body of Shakespeare's works.

615. Bibliography and Methods of Research. (2:2:0) F.S.Su. Gassman, J. Thomas
The use of library resources as tools for literary study and an introduction to various areas in which literary research may be pursued. To be taken in the first regular semester of graduate study.

621. Problems in the English Language. (3:3:0) F. 1968, 1969; Su. 1970. Prerequisite: Engl. 421. Cox, McKendrick
The study of a particular period in the English language or a particular aspect of the language, such as the study of morphology or syntax.

624. Old English. (3:3:0) S. 1968, 1969; Su. 1969. McKendrick, Young
A study of Old English grammar and vocabulary in order to understand traditional syntactical patterns and to read various types of Old English prose and poetry.

625. Beowulf. (2:2:0) S. 1970. Prerequisite: Engl. 624. McKendrick, Young
A close reading of the poem in the original with emphasis upon literary and cultural values.

626. Middle English. (2:2:0) F. 1968. McKendrick
A detailed study of the principal Middle English dialects as illustrated in the literature of the period.

631. The English Novel. (3:3:0) F. 1968, S. 1970, Su. 1969. Prerequisite: Engl. 332 or 333, or consent of instructor. Brady, B. Clark
An intensive analysis of literary values and techniques in selected novels. Not a survey course.

635. The American Novel. (3:3:0) S. 1969, F. 1969, S. 1970.
Blanch, M. Clark, Jacobs
Various approaches to the novel with emphasis on the formal. Focus may vary according to the instructor and the needs of students.

641. The English Drama. (3:3:0) Su. 1969, S. 1970. Craig
A short intensive survey of English drama from its beginning, followed by independent research.

650. Literary Criticism. (3:3:0) F.Su. Prerequisites: Engl. 450 or equivalent.
M. Clark, Hart
An examination of modern critical theory and practice and application by students to specific literary works.

661. Colonialism and Puritanism in American Literature. (3:3:0) F. 1969, Su. 1970. Prerequisite: Engl. 361 or consent of instructor.
Jacobs, Thomson, Williams
Intensive readings in major writers of the emerging American literary and cultural traditions before 1800.

662. **Romanticism in American Literature.** (3:3:0) F. 1968, Su. 1969. Prerequisite: Engl. 361 or consent of instructor. Jacobs, Thomson

The rise and fruition of the romantic movement in American literature from Freneau to Lowell.

664. **Realism and Naturalism in American Literature.** (3:3:0) S.Su. (Once a year, alternate S. and Su.) Prerequisite: Engl. 362 or consent of instructor. M. Clark, Jacobs

Dominant and aesthetic trends since the Civil War.

669. **Teaching English in the Secondary Schools.** (2:2:0) S. 1969, Su. 1969, 1970. Prerequisite: Engl. 377 or consent of instructor. West

Intensive consideration of literature, writing, grammar, and reading materials appropriate to English courses and the effective use of these materials.

671. **The Medieval Period in English Literature.** (2:2:0) F. 1969, S. 1970. (Scheduled alternately with Engl. 626) Engl. 626 helpful, but not required.

A close reading in the original of a principal work, such as **Troilus and Criseyde, Piers Plowman,** or **Sir Gawain and the Green Knight,** with emphasis upon its relation to the other literature, the culture, and the history of the period.

672. **The Renaissance in English Literature.** (3:3:0) F. 1968, S. 1969. Prerequisite: Engl. 372 or consent of instructor. Larson, J. Thomas, Wood, Young

Research in individual authors, styles, influences, and trends. Emphasis will vary according to instructor.

673. **Classicism in English Literature.** (3:3:0) S. 1970, Su. 1970. Prerequisite: Engl. 373 or consent of instructor. Gassman, Hart

A study in depth of selected writers from the period 1660-1780.

674. **Romanticism in English Literature.** (3:3:0) F. 1968, Su. 1970. Prerequisite: Engl. 374 or consent of instructor. Cheney, B. Clark, J. B. Harris

An intensive review of the major figures and trends in the Romantic period (1780-1832) along with individual research.

675. **The Victorian Age in English Literature.** (3:3:0) Su. 1969, S. 1970. Prerequisite: Engl. 375 or consent of instructor. Brady, B. Clark, Farnsworth

A careful and detailed analysis of literary genres, values, and techniques in representative works of the period. Not a survey course.

680. **Seminar in Modern Literature.** (3:3:0) F. 1968, Su. 1969. Prerequisite: at least one course in twentieth-century literature or consent of instructor. M. Clark, Hart, Larson

Study of specific trends in literature and criticism; students may select areas of interest.

682. **Seminar in Shakespeare.** (3:3:0) S. 1969, Su. 1970. (Offered alternately with Engl. 641, The English Drama.) Prerequisites: Engl. 382, 582, or consent of instructor. Hart

Problems in Shakespearean scholarship and criticism.

691. **Research in Folklore.** (2:2:0) S. 1970, Su. 1969. Cheney

Directed study and research in folklore and folkways with emphasis on Mormon heritage and tradition.

695. **Individual Readings in English.** (1-2:Arr.:0) F.S.Su.

Intended for investigation beyond course work offered, not for filling out minimum required hours.

699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.

See options described with master's program in English above.

Food and Nutrition

Professors: Bennion (chairman, 2218 SFLC), Page.

Assistant Professor: Matheson.

Instructors: Bryner, Sovine, Turner.

The program in the Department of Food and Nutrition is designed to provide educational experiences which will help young men and women:

a. to appreciate the role of nutrition in promoting optimum health and to apply the principles of nutrition in daily living;
b. to gain skill in the management of time, money, and materials in relation to the preparation of family meals;
c. to understand the relationship of science to nutrition and food preparation; and
d. to earn a living in a profession related to food and nutrition.

Courses in this department provide training for such professional fields as hospital dietetics, public health nutrition, school lunch or restaurant administration, test kitchen work, food demonstration, college teaching, and research.

The courses in this department are planned to be of value to both men and women.

For majors in food and nutrition a minimum of 24 credit hours in the department is required. For graduation from the College of Family Living one course is required from each of the following departments: clothing and textiles, housing and home management, and child development and family relationships.

Suggested Program

Food and Nutrition Major

Freshman

	Hours
Undergrad. relig.	4
Engl.	6
P.E. & health	3
Zool. 105	3
Psych. 111	3
Chem. 101 or 105 & 106	4-8
Math. 101 or 105	3
Food & Nutr. 115	2
Electives	2-6
Total Hours	32-34

Sophomore

	Hours
Undergrad. relig.	4
P.E.	1
Zool. 261, 263	4
Art	2
Econ. 101	3
Chem. 151	5
Micro. 121, 321 and 322 or 331	3-5
Food & Nutr. 264, 265	5
Electives	5-7
Total Hours	32-34

Junior

	Hours
Undergrad. relig.	4
Hist. 170	3
Chem. 384, 385	5
Physics 100	3
Hous. Home Mgt. 335	3
CDFR 210 or 410	3
Food & Nutr. 335	5
Food & Nutr. 340, 370	4
*An. Sci. 225	2
Electives	2-3
Total Hours	34-35

Senior

	Hours
Undergrad. relig.	4
Hum. & fine arts	4
Clo. & text.	2-3
*Micro. 361	2
Food & Nutr. 455, 490	5
Other food & nutr. courses	3-7
Electives	10-15
Total Hours	30-35

*Strongly recommended

Students preparing for a dietetic internship must elect Food and Nutr. 380, 470, and 472; Acctg. 201; Psych. 330; Tchr. Ed. 402 or Psych. 460.

A postgraduate internship of twelve months is required for positions in hospital dietetics. Certain centers have been approved by the American Dietetic Association to give internship training. A list of these centers, as printed by the American Dietetic Association, is available in the office of the department chairman.

Suggested Program

Foods in Business

Freshman

	Hours
Undergrad. relig.	4
Engl. 111 and 112	6
P.E. and health	3
Zool. 105	3
Psych. 111	3
Chem. 101	4
Micro. 121	3
Food & Nutr. 115	2
Electives	4-6
Total Hours	32-34

Sophomore

	Hours
Undergrad. relig.	4
P.E.	1
Zool. 261, 263	4
Art	2
Econ. 101	3
Chem. 151	5
CDFR	2-3
Food & Nutr. 264, 265	5
Commun. 101, 211	5
Electives	2-4
Total Hours	33-36

Junior

	Hours
Undergrad. relig.	4
Hist. 170	3
Chem. 384, 385	5
An. Sci. 160	3
Speech & Dram. Arts 102	2
Food & Nutr. 310, 335, 340	9
Commun. 255, 351	4
Electives	2-4
Total Hours	32-34

Senior

	Hours
Undergrad. relig.	4
Hum. and fine arts	2
An. Sci. 225	2
Food & Nutr. 370 and 464 or 490	4-5
Hous. Home Mgt. 335, 460, and 480	7
Commun. 330, 346	5
*Physics 177	3
Clo. & text.	2-3
Electives	3-5
Total Hours	32-36

*Strongly recommended.

If a student plans to extend his college education in food and nutrition beyond the bachelor's degree, the following undergraduate program is advised.

Suggested Program

Preparation for Graduate Work in Food and Nutrition

Freshman

	Hours
Undergrad. relig.	4
Engl.	6
P.E. & health	3
Chem. 105, 106	8
Math. 111	5
Zool. 105	3
Food & Nutr. 115	2
Psych. 111	3
Total Hours	34

Sophomore

	Hours
Undergrad. relig.	4
P.E.	1
Chem. 223	5
Physics 201, 202	8
Art	2
Econ. 101	3
Hum. & fine arts	4
Zool. 261, 263	4
Electives	3-5
Total Hours	34-36

Junior

	Hours
Undergrad. relig.	4
Hist. 170	3
Chem. 351, 352, and 353 or 151; 384, 385	10-12
Food & Nutr. 264, 265, 335, 340	12
Total Hours	29-31

Senior

	Hours
Undergrad. relig.	4
Micro. 331	5
Hous. Home Mgt. 335	3
Clo. & text.	2-3
Food & Nutr. 370, 455, 464, 490, 594 or 595	11-12
Electives	8-10
Total Hours	35-36

Courses

110. Introductory Food and Nutrition. (2:1:2) F.S. Fee: $4.00

Open to all students. Techniques of food preparation for maximum retention of nutritive value are taught through lecture and laboratory experience.

115. Essentials of Nutrition. (2:2:0) F.S.Su. Home Study also. (m)

Basic concepts of human nutrition and their application in achievement and maintenance of optimum health.

116. Essentials of Nutrition Laboratory. (1:0:2) F.S. (m) Prerequisites: concurrent registration in Food & Nutr. 115 or consent of instructor.

☐**Animal Science 160. Introduction to Dairy Food Technology.** (3:3:0)

☐**Animal Science 225. Meat Identification and Preparation.** (2:1:3)

245. Nutrition of Mother and Child. (2:2:0) F.S.

Not open to students who have completed a basic course in nutrition. Basic concepts of human nutrition with special emphasis on the nutritional needs and problems of pregnancy, lactation, and childhood through adolescence.

255. Fundamentals of Nutrition. (5:4:2) F. (m) Prerequisites: Zool. 105, Chem. 151.

For nonmajors. Majors should elect Food & Nutr. 115 and 335.

Basic concepts of human nutrition at all ages. Achievement and maintenance of optimum health for all family members.

264. Introduction to Experimental Foods. (3:3:0) F.S. (m) Prerequisites: Chem. 151; Micro. 121 or 331; concurrent registration in Food & Nutr. 265.

Bennion, Turner

An experimental approach is used to gain an understanding of the purpose of ingredients and procedures used in the preparation of some common foods. The underlying theory of and practice in the preservation of foods is included.

265. Introduction to Experimental Foods Laboratory. (2:0:6) F.S. (m) Prerequisite: concurrent registration in Food & Nutr. 264. Bennion, Turner

310. Food Patterns of Various Cultures. (2:1:3) S. (m) Prerequisites: A college course in food preparation or consent of instructor. Fee: $4.00. Bryner

The social, religious, economic, and aesthetic significance of food customs of various cultures.

335. **Chemistry of Nutrition.** (5:4:2) S. (m) Prerequisites: Food & Nutr. 115; Zool. 261; completion of or concurrent registration in Chem. 384, 385.

Application of scientific principles to the study of nutrition.

340. **Meal Management.** (2:1:3) F.S. (m) Prerequisites: Food & Nutr. 110 or 264 and 265; completion of or concurrent registration in Food & Nutr. 115 and 116 or 255. Fee: $5.00. Bryner, Page

Organization and management of time, energy, and finances in planning and preparing family meals.

☐ **Microbiology 361. Food Microbiology.** (2:1:3)

370. **Quantity Food Production and Service.** (2:1:3) F. (m) Prerequisites: Food & Nutr. 110 or 264 and 265; or consent of instructor.

Standards and procedures for preparing and serving food to large groups. Planning menus and costing recipes.

380. **Quantity Food Purchasing.** (2:2:0) F. Prerequisites: completion of or concurrent registration in Food & Nutr. 370; Food & Nutr. 264, 265.

Principles and methods of buying food for various types of institutions with emphasis on specifications and factors affecting quality and food cost control.

400. **Community Nutrition.** (2:1:2) S. (m) Prerequisites: Food & Nutr. 255 or 335 or consent of instructor.

Theory and principles of public health nutrition and their application to specific community nutritional programs.

455. **Diet Therapy.** (3:2:2) S. (m) Prerequisite: Food & Nutr. 335. Bennion

The role of nutrition in times of stress and special need and as a therapeutic aid in treatment of disease.

464. **Experimental Foods.** (3:2:3) F. (Offered 1968 and alternate years) Prerequisites: Food & Nutr. 264, 265. Bennion, Page

Application of scientific principles to food study. Development of methods used in solving experimental food problems.

470. **Advanced Quantity Food Production.** (2:1:3) S. Prerequisites: Food & Nutr. 370 and 380.

Supervising preparation and service of food to large groups. Observing preparation and serving in community institutions. Methods in catering.

472. **Food Service Organization and Administration.** (3:2:3) S. Prerequisite: completion of or concurrent registration in Food & Nutr. 470.

Management of financial and personnel problems in food service administration. Planning of institutional kitchens; selection and maintenance of equipment. Field trips required.

490. **Seminar.** (2:2:0) S. Prerequisites: 10 credit hours in food and nutrition or consent of instructor. Bennion, Page

594. **Special Problems in Food.** (1-2:0:3-6) Arr. Prerequisite: consent of instructor and chairman of department. Bennion, Page

For students who have completed at least 12 hours in food and nutrition. Independent study of a special problem in food under direction of an instructor.

595. **Special Problems in Nutrition.** (1-2:0:3-6) Arr. Prerequisite: consent of instructor and chairman of department.

For students who have completed at least 12 hours in food and nutrition. Independent study of a special problem in nutrition under direction of an instructor.

635. **Advanced Human Nutrition I.** (3:3:0) F. (Offered 1969 and alternate years) Prerequisite: Food & Nutr. 335 or equivalent.

Protein and amino acid nutrition; carbohydrate, lipid, and energy metabolism.

636. Advanced Human Nutrition II. (3:3:0) S. (Offered 1970 and alternate years) Prerequisite: Food & Nutr. 335.
Mineral and vitamin metabolism.

664. Science and Experimental Foods I. (3:3:0) F. (Offered 1968 and alternate years) Prerequisite: Food & Nutr. 464 or equivalent. Bennion
Protein foods; simple colloidal systems, gels, emulsions, and foams.

666. Science and Experimental Foods II. (3:3:0) S. (Offered 1969 and alternate years) Prerequisite: Food & Nutr. 464 or equivalent. Bennion
Enzymes in food; carbohydrates and lipid food materials.

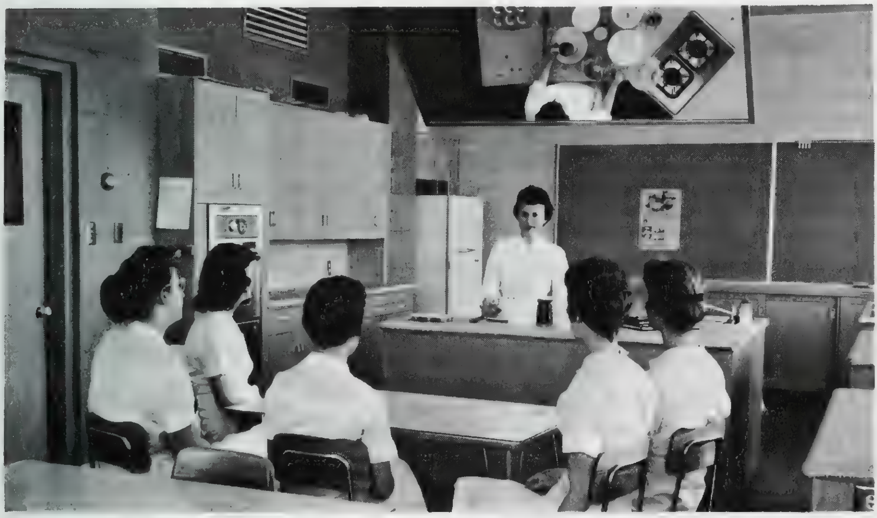
690. Seminar in Food. (1-2:1-2:0) F. Bennion

691. Seminar in Nutrition. (1-2:1-2:0) S.

695. Methods of Research in Food and Nutrition. (3:0:9) F. (Offered 1968 and alternate years)

697. Research. (1-3:Arr.:Arr.) F.S.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) Bennion



Food and nutrition class demonstration

Forum Assemblies

Professor: J. LaVar Bateman (coordinator, 115 ELWC).

(An interdepartmental area only)

In 1958 Brigham Young University inaugurated a weekly series known as forum assemblies. The purpose of the assemblies is to bring to our campus men and women of recognized preeminence in their chosen fields and to hear their stimulating messages. Among those appearing in years past were John Ciardi, Dr. Charles Malik, Pearl Buck, Dr. Kenneth McFarland, and others of similar stature.

One-half hour credit per semester or one hour per year may be earned by registering for and attending a minimum of eleven forums each semester. Attendance is based on the honor system. Forum assembly credit may be carried above the normal class load. Grading, on a "pass" basis, will have no effect on grade-point average. Students must register for forum assemblies on the basis of their standing as freshmen, sophomores, juniors, or seniors. All students are encouraged to attend these provocative, intellectually rewarding assemblies.

Lower-Division Courses

101, 102. Lectures in Contemporary Civilization. (½:1:0 ea.) F.S.
Open to freshman students only. Forum Lecturers

201, 202. Lectures in Contemporary Civilization. (½:1:0 ea.) F.S.
Open to sophomore students only. Forum Lecturers

Upper-Division Courses

301, 302. Lectures in Contemporary Civilization. (½:1:0 ea.) F.S.
Open to junior students only. Forum Lecturers

401, 402. Lectures in Contemporary Civilization. (½:1:0 ea.) F.S.
Open to senior students only. Forum Lecturers

Genealogy

Assistant Professor: Wright (coordinator, 140 Social Hall).

Instructors: Bloxham, Pratt.

Genealogy is a valuable study of man and the family with emphasis on man's descent from common progenitors. A study of the subject is also of value to persons other than the genealogist, including the librarian, historian, sociologist, and the individual who desires a liberal education. In keeping with the emphasis on genealogy, Latter-day Saints should be well informed concerning scientific genealogical research and its relationship to the plan of salvation. The University is taking the lead in providing instruction in this area.

Competent researchers are in demand not only in the Church but also in libraries, archives, societies, and family associations. With the large number of unsolved genealogical problems before us, it is evident that a greater number of competent genealogists must be trained; for only through competent scientific genealogical research can a majority of these problems be solved.

The four-year program in genealogy leading to the baccalaureate degree outlines the curricula for North-American genealogical research with a minor in history. Other options planned are British and Continental European genealogical research. Suggested minors are computer science, languages, or library science. A genealogical minor requires completion of 16 hours. A student minoring in library science must take 6 of his elective hours in upper-division history or political science courses. It is recommended that genealogy majors acquire at least an elementary knowledge of Latin.

First Year

	F	S
Undergrad. Relig. 121, 122	2	2
Undergrad. Relig. 261	2	
Geneal. 265, 266A	3	3
Geneal. 270, 271B	3	3
Engl. 111, 112	3	3
Biol. sci., phys. sci.	3	3
Lib. Sci. 111		1
Total Hours	16	15

Second Year

	F	S
Undergrad. relig.	2	
Geneal. 266B, 295	3	4
Geneal. 271A, 271C	3	3
Hist. 120, 121	3	3
Comput. Sci. 201, Lib. Sci. 370	2	3
Hum., Health 130	3	2
P.E.	½	½
Dev. assy.	½	½
Total Hours	17	16

Third Year

	F	S
Geneal. 300, 310	3	3
Biol. sci., phys. sci.	3	3
Hist. 370, 335	3	3
Comput. Sci. 331, hum.	3	3
Undergrad. Relig. 241, 242	2	2
Electives (upper division)	2	2
P.E.	½	½
Total Hours	16½	16½

Fourth Year

	F	S
Geneal. 410A, 410B	3	3
Hist. 362, 363	2	2
Pol. Sci. 568	3	
Lib. Sci. 355		3

Undergrad. relig.	2	2
Electives (upper division)	5	5
Total Hours	15	15

Courses

265. North-American Genealogical Research. (3:3:0) F.S.Su. Home Study also. (G-SS m) Prerequisite or concurrent: Undergrad. Relig. 261. Wright

Genealogical research methods, procedures, and background peculiar to North America.

266A,B,C. North-American Genealogical Sources. (3:3:0 ea.) F.S.Su. Home Study also. (m) Prerequisite: Geneal. 265. Wright

Critical analysis of genealogical records and sources peculiar to New England and Middle Atlantic States, Southern and Midwestern States, Far-Western States and Canada.

270. British Genealogical Research. (3:3:0) F.S.Su. Home Study also. (G-SS m) Prerequisite or concurrent: Undergrad. Relig. 261. Bloxham, Pratt

Genealogical research methods, procedures, and background peculiar to Great Britain and the Commonwealth (except Canada).

271A,B,C. British Genealogical Sources. (3:3:0 ea.) F.S.Su. Home Study also. (m) Prerequisite: Geneal. 270. Bloxham, Pratt

Critical analysis of genealogical records and sources peculiar to Medieval Britain; Modern England and Wales; Scotland, Ireland, and the Commonwealth.

275. Continental European Genealogical Research. (3:3:0) F.S.Su. (G-SS m) Prerequisite or concurrent: Undergrad. Relig. 261. Johansson

Genealogical research methods, procedures, and background peculiar to Europe (except Great Britain).

276A,B,C. Continental European Genealogical Sources. (3:3:0 ea.) F.S.Su. (m) Prerequisite: Geneal. 275. Johansson

Critical analysis of genealogical records and sources peculiar to Scandinavia, Northern Europe, and Southern Europe.

280. Latin-American Genealogical Research. (3:3:0) S. (Offered 1967-68 and alternate years) (m) Prerequisite or concurrent: Undergrad. Relig. 261. Pratt

Genealogical research methods, procedures, and background peculiar to Latin America.

285. Asian Genealogical Research. (3:3:0) F. (Offered 1969-70 and alternate years) (m) Prerequisite or concurrent: Undergrad. Relig. 261.

Genealogical research methods, procedures, and background peculiar to Asia.

290. Polynesian Genealogical Research. (3:3:0) S. (Offered 1969-70 and alternate years) (m) Prerequisite or concurrent: Undergrad. Relig. 261. Wright

Genealogical research methods, procedures, and background peculiar to Polynesia.

295. Applied Research Seminar. (4:2:6) S.Su. Prerequisite: consent of instructor. Bloxham

Practical application of genealogical research using the facilities of the LDS Genealogical Society to solve selected genealogical problems in the major geographical areas of the world.

300. Paleography and Heraldry. (3:3:0) F. (m) Pratt, Wright

History and development of English and American handwriting with practical application of court and secretary handwriting in early England and the Colonies, with a study of heraldry and its general value to the genealogist and historian.

310. Migration Patterns. (3:3:0) F. (m) Prerequisite: Undergrad. Relig. 261. Pratt, Wright

Migration and its effect on genealogical research with emphasis on causes, patterns, and routes in Britain and America.

410A,B. Advanced Research Methods and Procedures. (3:2:3 ea.) F.S. Prerequisite: Geneal. 295. Bloxham, Johansson, Pratt, Wright

An advanced course in the technique of pedigree analysis and records evaluation and a practicum in research relating to special genealogical problems.

Note: For additional genealogical courses, see Undergrad. Relig. 261 and 262.

Joseph Smith Memorial Building

General Curriculum

Instructors: Banks (chairman, Gibbons Hse.), Fox, Liechty, Rigby, Sumpter.

This department is designed for those students who may not desire to pursue a four-year program. Under a four-year bachelor-degree program some lower-division course requirements fail to meet the needs of two-year students and of those students who for various reasons do not plan to graduate.

In order to more effectively meet the needs of these students, a well-rounded two-year general education program has been instituted with greater emphasis upon practical application and life involvement. An associate degree will be awarded upon successful completion of the program.

The same academic requirements will be expected of students in the associate-degree program as are required for the four-year students. This program affords some special advantages:

1. The classes are limited in size to increase individualized help and guidance.
2. A staff of competent and highly trained faculty members is available.
3. Students have a greater opportunity to excel at their own rate.

Interested students may contact General College for more detailed information.

Associate-Degree Requirements

In order to qualify for the associate degree in General College a student must complete 64 semester hours, 20 of which must be in residence. Up to 12 credits may be taken by correspondence. A maximum of 10 credits of "D" may be accepted. However, a student is required to have a 2.0 cumulative grade-point average.

Each student must have his program planned with and approved by his major adviser. The basic course requirements for this degree are as follows:

General Education Requirements	
G.C. Engl. 105 & 106, or equiv.	6 hrs.
History 170	3
P.E.	1
Undergrad. relig.	8
G.C. Biol. 101, or equiv.	3
G.C. Phys. Sci. 103, or equiv.	3
Social science	3
Humanities	3
Total Semester Hours	32

Department Requirements	
Area of concentration	21 hrs.
Electives	11
Total Semester Hours	32

Courses

☐ **Business Education 100. Introduction to Business.** (3:5:0) F.

☐ **Mathematics 101. Intermediate Algebra.** (3:4:0) F.S. Banks

☐ **Business Education 101. Beginning Typewriting.** (2:3:2) F.S.

101, 102. Introduction to Biological Science I, II. (3:3:2) F.S. Liechty
A survey course in the field of biological science.

103, 104. Introduction to Physical Science I, II. (3:3:2) F.S. Banks
A survey course in the field of physical science.

105. Composition and Reading. (3:5:0) F.S. Rigby, Sumpter
For students who need special help in freshman composition.

106. English: Personal Communications. (3:5:0) Prerequisite: G.C. 105. Rigby, Sumpter
For terminal two-year students. Designed to develop ability to communicate effectively and to develop competence in specialized report writing for formal classes. (Does not fulfill freshman English requirements for a baccalaureate degree.)

107. Introduction to Social Science. (3:3:1)
An introduction to the social sciences.

☐ **Health 130. Personal Health.** (2:2:0) F.S.Su.

☐ **History 170. American Heritage.** (3:3:0) F.S. Fox

☐ **Housing and Home Management 170. Home Management for Effective Living.** (2:2:0) F.S. Lewis

☐ **Business Education 203. Production Typing.** (2:3:2) F.S.

☐ **Business Management 205. Personal Finance.** (2:2:0) F.S.

☐ **Business Education 206. Calculating and Posting Machines.** (2:3:2) F.S.

☐ **Business Education 275. Stenographic Procedures.** (4:3:3) F.S.

Students in honors program talk with teacher

Geography

Professor: Layton (chairman, 167-D HGB).

Associate Professors: Millett, Tuttle.

Assistant Professors: Aamodt, Grey, Horiuchi, Stevens.

The Geography Department offers a full program leading to both the B.S. and M.S. degrees. A major in geography provides training for a variety of employment opportunities. Graduates are engaged in teaching and in various positions in business and industry. They also work in planning, intelligence, cartography, and other government employment. The undergraduate major is designed to provide a general background which may lead into any of these fields. Students seeking employment in business, industry, or government agencies should usually anticipate some post-graduate work, either an academic program leading to an advanced degree or one of many in-service training programs offered by these employers.

Training in geography is also of value to students from other fields. The survey courses offer a broad, overall view of the earth and its problems. The advanced courses may be used to reinforce areas of major interest in terms of a particular part of the world or to learn techniques used by geographers in analysis of distribution of various physical or cultural features.

Geography Major

Students majoring in geography may complete their general education requirements with either the language, or the mathematics, science, and logic sequence. Those planning on entering fields such as planning, industrial location, physical geography, or cartography should obtain a background in statistics and mathematics. Students specializing in area studies should select the language option. All majors should select courses from the above groups after consultation with their adviser.

The program listed for the geography major constitutes a 19-hour core of general material fundamental to all branches of the discipline plus 13 hours of course work which is directed toward the student's particular area of interest. These optional courses and the student's minor program must be arranged after consultation with the major adviser.

The following courses are required for a major:

Lower Division: Geog. 101, 102, 120, 211, 231.

Upper Division: Geog. 450, 504, 598; and electives selected in consultation with the student's adviser to make a total of 32 hours.

Geography Minor

It is suggested that a minor in geography include Geog. 101 and 120. The remaining eight hours should be chosen from courses marked (m) that are most closely related to the student's major field.

Teaching Major or Minor

Students planning to certify for teaching should check closely the listing of course requirements in the Teacher Education section of this catalog. The minor requirements differ from those listed above.

Master of Science Degree

Students planning to obtain an M.S. degree are required to take Geog. 601, 620, 630, 698, and 699; plus electives selected in consultation with their committee to total 30 hours. Graduate students should have Geog. 312 as a part of their undergraduate major, or be prepared to take this class in addition to the 30 hours listed above.

Courses

101. Introduction to Geography. (3:3:0) F.S. Home Study also. (G-SS m)
A general survey of the distribution of and processes concerned with the different factors of man's natural environment; i.e., landforms, climate, soils, natural resources.

102. Introduction to Geography Laboratory. (1:0:2) F.S. (m)
Laboratory experience with topics covered in Geography 101. Must be taken concurrently with, or subsequent to, Geography 101.

120. Geography and World Affairs. (3:3:0) F.S. Home Study also. (G-SS m)
A survey of the world stressing the human and economic geography of major political regions. Of special interest to all students who wish to broaden their knowledge of the problem areas of the world today.

211. Introduction to Maps and Air Photos. (2:1:2) F.S. (m) Layton
Maps and air photos as tools for teaching and research. Sources of maps and photos and practice in their use.

231. Economic Geography. (3:3:0) F.S. Home Study also. (G-SS m) Layton
A brief survey of the world's resource pattern. Origin, importance, and movement of major agricultural and mineral commodities in world affairs.

312. Map Drawing. (3:1:4) S. (m) Layton
Maps as a means of recording information. Methods of illustrating various types of data and preparation of maps for reproduction and publication.

332. World Mineral Resources. (2:2:0) S. (m) Prerequisite: Geog. 231. Layton
Geography of reserves, production, and uses of the world's major metallic and nonmetallic minerals.

401. Geography of Climates. (3:3:0) F. (m) Prerequisite: Geog. 101 and 102 or consent of instructor. Grey
The elements, controls, distribution, and classification of the climates of the earth.

405. Geography of Landforms. (2:2:0) S. (m) Prerequisite: Geog. 101 and 102 or consent of instructor. Grey
The elements of landforms, their distribution, and cultural significance.

441. Political Geography. (3:3:0) F.S. (G-SS m) Horiuchi
The physical, political, economic, and social elements of political geography and analysis of the power structure of the world's major powers.

450. North America. (3:3:0) F.S. Home Study also. (G-SS m) Tuttle
The United States and Canada including climates, landforms, natural resources, agriculture, and industries.

455. Latin America. (3:3:0) F. Home Study also. (m) Layton
Physical and cultural geography of the nations of South and Middle America.

460. Europe. (3:3:0) S. Home Study also. (G-SS m) Millett
The land and how man is utilizing the natural and human resources of Europe. Emphasis on human geography of major political regions.

470. Asia. (3:3:0) F. (m) Horiuchi
Geography of one-third of the earth and two-thirds of its people. Man's use of his natural environment.

475. Africa. (3:3:0) F. (m) Aamodt
Systematic regional treatment of physical, economic, political, and cultural geography of Africa.

480. Australia and New Zealand. (2:2:0) F. (m) Grey

490. Readings in Systematic Geography. (1:0:2) F.S.
For majors only or by permission of department chairman.

491. Readings in Regional Geography. (1:0:2) F.S.
For majors only or by permission of department chairman.

493. Special Problems. (1-2:1-2:0) F.S.
For majors only.

501. Principles of Geography. (3:3:0) S. Stevens
Designed to present information required for the teaching of geography.

504. Geographic Field Techniques. (2:1:2) S. Millett
For majors only.

522. Urban Geography. (3:3:0) F. (m) Aamodt
Distribution of urban areas, their development, internal land use patterns, and functions in the world's economy.

533. Industrial Geography. (3:3:0) S. (m) Prerequisite: Geog. 231. Layton, Stevens
A systematic analysis of location patterns of major industries in the United States; raw materials, power resources, and other factors in industrial location.

552. United States. (2:2:0) S. Prerequisite: Geog. 450. Tuttle
A concentrated study of various phases of the geography of the U.S. Considerable research and reporting by individual students are required.

553. Geography of Utah. (2:2:0) S. Stevens
The distribution of climates, landforms, vegetation, agriculture, mining, manufacturing, and service industries as related to present population and future growth patterns in Utah.

556. South America. (2:2:0) S. Prerequisite: Geog. 455. Layton

557. Caribbean Area. (2:2:0) Prerequisite: Geog. 455. Layton

561. Western Europe and the Mediterranean. (2:2:0) Prerequisite: Geog. 460. Millett
A comprehensive study of the systematic and regional geography of non-Communist Europe.

562. USSR and Its Satellites. (2:2:0) Prerequisites: Geog. 460 or 470 or consent of instructor. Aamodt
A concentrated study of the physical features, resources, agriculture, industries, and distribution of peoples.

571. Problems of Asia. (2:2:0) F. Prerequisite: Geog. 470. Horiuchi
A comprehensive study of the systematic and regional geography of Asia.

580. Geography of Underdeveloped Areas. (2:2:0) F. Prerequisite: consent of instructor. Aamodt, Horiuchi

Physical, economic, and human geography as it affects the world's underdeveloped areas, with emphasis on future development possibilities.

598. Seminar in Techniques of Research and Presentation. (2:2:0) Arr.

A pro-seminar concentrating on the scholarly use of the printed and manuscript materials in the different aspects of geography and the effective presentation of research findings in written and oral form.

601. Physical Geography. (2:1:2) F. Grey

620. Cultural Geography. (2:1:2) S. Aamodt

630. History and Philosophy of Geography. (2:2:0)

The development of geographical thought since classical times. Major concepts concerning the nature, scope, and methodology of the discipline.

☐**History 685. Historical Geography of the U.S.** (2:2:0)

690. Readings in Systematic Geography. (1:0:2) F.S.

For graduate students only.

691. Readings in Regional Geography. (1:0:2) F.S.

For graduate students only.

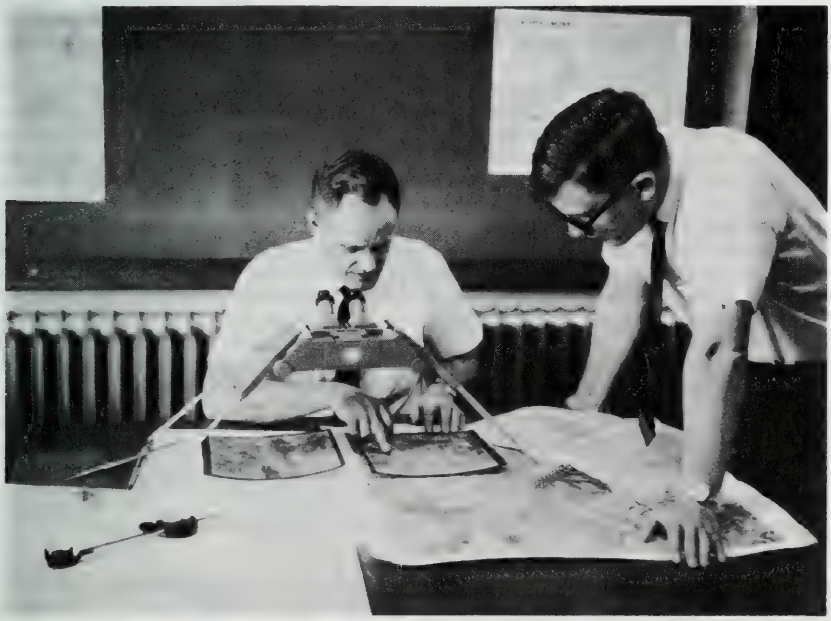
695. Special Problems. (1-2:1-2:0) F.S.

696, 697. Research. (2:2:0 ea.) F.S.

698. Seminar in Systematic Geography. (2:2:0)

A detailed investigation into selected aspects of systematic geography.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.



Members of geography faculty checking aerial photographs

Geology

Professors: Bissell, Bullock, Hamblin, Hansen, Hintze (chairman, 275 ESC), Phillips, Rigby.

Associate Professors: Best, Bushman, Brimhall, Petersen.

Assistant Professor: Braithwaite.

Curator: Jensen

Geology offers an unusually wide variety of attractive career possibilities to students whose interests lie within the physical or life sciences. A graduate in geology may anticipate a position, with better-than-average pay, in a minerals industry, university, or some governmental agency. He often enjoys opportunities for world-wide travel and for leadership in rapidly developing areas of geology like oceanography or lunar geology, with nearly any allowable balance between outdoor field studies and indoor laboratory investigation.

The Department of Geology offers bachelor degrees in earth science, geology, and geological engineering. The earth science major is largely laboratory work and is for prospective secondary school teachers and for others with interest in geology but who do not plan a professional career in it. The geological engineering major leads to a highly professional degree which fails to claim recognized accreditation only for want of a recognized accrediting agency. The geology major offers a well-balanced core curriculum leading to a professional career in geology with provisions for special preparation in geophysics, mineralogy, and paleontology.

Earth Science Major: Earth science combines the more descriptive phases of geology with those of astronomy, meteorology, and geography for those who seek careers in secondary science education or those with nonprofessional aspiration in geology.

There is an increasing demand for teachers prepared to teach earth science. This subject is widely recognized as a most appropriate and popular science subject in the seventh, eighth, and ninth grades. Teachers preparing in earth science must fulfill the requirements outlined below including those courses required for state certification. Prospective teachers who plan to use geology as a composite major or minor should refer to the Teacher Education Section of this catalog for required curriculum.

Earth science majors who pursue nonteaching and nonprofessional status in the geological science may substantially extend their choice of courses by substituting upper-division electives in geology for teacher education courses.

All students majoring in earth science are required to take 54 credit hours from the following list of courses with a minimum in each group as follows: 20 hours of geology, 14 hours of physics, 8 hours in chemistry, 4 hours in mathematics, and 5 hours in geography. This leaves 3 hours for elective choice.

Geology: 111 (4), 112 (4), 311 (4), 312 (1), 313 (3), 351 (5), 352 (3), 410 (4), 460 (4), 470 (3), 480 (4), 502 (2) (this course is for teachers only).

Physics: 127 (3), 137 (3), and either 201-202 (10) or 211, 212, 213, 214 (10).

Chemistry: 105 (4), 106 (4).

Mathematics: 105 (3), 106 (3), 109 (4), 111 (5), 112 (4), 113 (4).

Geography: 211 (2), 401 (3).

Prospective earth science teachers are required to take Geology 502 (2); Zoology 105 (3), 315 (3); Botany 110 (3) and 205 (2).

It is recommended that earth science majors take the following classes in filling the University general education group requirements: Geography 101 and Anthropology 101.

For those intending to take additional classes in mathematics, chemistry or physics, or who plan to secure a master's degree in any phase of science education, it is strongly recommended that Mathematics 111, 112, and 113 be taken. Physics 211, 212, 213, and 214 should be taken in preference to 201 and 202, and followed by Physics 315 if possible.

Students with a good background in biology who desire giving a stronger emphasis to zoology should take any combination of the following courses in place of Zoology 105 and 315: Zoology 212, 213, and 230. This would enable them, with the approval of advisers in geology and zoology, to have a wider selection of upper-division courses and 500 and 600 numbered courses if they do graduate work.

The following education courses must be taken by those wishing to fulfill state teaching requirements: Tchr. Ed. 301 (2), 310 (2), 362 (2), 377 (3), 403 (4), 415 (2), 479 (8), for a total of 23 hours. (For additional information consult the section of the catalog titled "Teacher Education.")

Total hour requirements for graduation in earth science:

A. Earth Science Teaching Degree
54 hrs. Major-Minor
11 hrs. Biological Science
40 hrs. General Education
23 hrs. Teacher Education
———
128 hrs. (16 hrs./semester)

B. Terminal Degree in Earth Science
54 hrs. Major-Minor
46 hrs. General Education
28 hrs. Electives (upper div.)
———
128 hrs. (16 hrs./semester)

Recommended Curriculum for B.S. Teaching Degree in Earth Science

Freshman Year

	F	S
Geol. 111		4
Math. 111	5	
Chem. 105, 106	4	4
Engl. 111, 112	3	3
Health 130	2	
P.E.	½	½
Undergrad. Relig. 121, 122	2	2
Geog. 101		2
	16½	15½

Sophomore Year

	F	S
Geol. 112		4
Geol. 351, 352	5	3
Physics 201, 202	5	5
Hist. 170	3	
Geog. 211	2	
P.E.	½	½
Undergrad. relig.	2	2
Bot. 110		3
	17½	17½

Junior Year

	F	S
Geol. 502		2
Geog. 401	3	
Physics 127, 137	3	3
Zool. 105	3	
Undergrad. relig.	2	2
Tchr. Ed. 301	2	
Tchr. Ed. 310	2	
Tchr. Ed. 377		3
Tchr. Ed. 403		4
Anthrop. 101		2
Electives	1	
	16	16

Senior Year

	F	S
Bot. 205		2
Zool. 315		2
Undergrad. relig. (Block 2nd)	2	2
Tchr. Ed. 415		2
Tchr. Ed. 479 (Block 1st)	8	
Health 362		2
Engl. lit. (Block 2nd)	6	
Geol.		2
Electives		3
	16	15

Graduate Studies in Earth Science. The requirements for a Master of Arts degree in earth science include (1) a minimum of 12 hours in geology and 12 hours from the associated fields of chemistry, physics, mathematics, geography, botany, and zoology; (2) a comprehensive examination of graduate course work prior to the thesis defense; (3) a thesis representing research work in the field of earth science under a faculty member's supervision for a total of six hours; (4) a final oral examination on the research thesis. (See Graduate School regulations for general requirements.)

Selections are to be made from the following courses:

Geology: 507 (2), 510 (1-3), 511 (3), 512 (4), 540 (2), 577 (3), 682 (3), (plus upper-division courses not previously taken)

Physics: 300 (3), 527 (3), 528 (3), 536 (3), 537 (3), (Math. 111, 112, 113, Physics 211 and 213 are required prerequisites for the sequence starting with 527, or consent of instructor)

Chemistry: 351 (3), 352 (3), 353 (1-2), 514 (3), 598 (Arr.), (514 requires 223 as prerequisite or consent of instructor)

Botany: 321 (2), 331 (5), 440 (3), 455 (2), 460 (2), 510 (3), 525 (3), 539 (3), 550 (3), 557 (2), 620 (3), 655 (2)

Zoology: 343 (2), 345 (2), 346 (2), 347 (2), 357 (2), 372 (1), 376 (3), 378 (1), 385 (2), 555 (2), 567 (3), 578 (2), 591 (1), 615 (5) (Students who are able to take 213 and 212 or 230 as an undergraduate because of a good biological background in high school, could take a number of additional advanced courses which would be determined by consultation with his major professor and the Department of Zoology.)

Mathematics: 300 (3), 301 (3), 302 (3), 371 (3), 501 (3), 502 (3), 503 (3), (Math. 111 is a prerequisite for 301 and Math. 112 is a prerequisite for 300 and 302)

Geography: 405 (2), 601 (2)

Geology Major. The four-year program leading to the Bachelor of Science degree in geology requires of all students a standard core of geology courses representing all major phases of geology with supporting work in chemistry, physics, mathematics, and biology. The nonspecialized curriculum is designed to provide maximum flexibility for early employment or a broad, well-rounded background for graduate studies. The capable student is strongly encouraged to plan for studies beyond the bachelor degree and to select those elective courses which will strengthen his area of special interest. Specific elective courses are recommended below for undergraduate preparation in geophysics, mineralogy, or paleontology. Careful adherence should supply adequate preparation for graduate work in any phase of geology at any leading university.

It is expected that a student majoring in geology shall have met the general entrance requirements of the College of Physical and Engineering Sciences and shall complete all general education requirements of Brigham Young University as outlined in the General Education Section of this catalog. Each student seeking the Bachelor of Science degree in geology shall successfully complete the following courses, or their accepted equivalent at another institution:

Geology courses: Geology 111 (4), 112 (4), 351 (5), 352 (3), 311 (4), 312 (1), 313 (3), 410 (4), 470 (3), 460 (4), 480 (4), and 591 (1) A, B, C, or D.

Supporting courses: Mathematics 105 (3), 106 (3), and 109 (4); Statistics 221 (3); Chemistry 105 (4) and 106 (4), or 111 (5) and 112 (5); Physics 201 (5) and 202 (5), or 211 (4) and 213 (4).

Geology students with special interest in paleontology may substitute Zoology 212 (4) and 213 (4) or 363 (4) for the physics requirement. The combined chemistry and physics, or zoology requirement is accepted by the Geology Department as adequate fulfillment of the University requirement for a minor.

The Department of Geology recommends the following courses for partial fulfillment of University, undergraduate, and general education requirements:

Zoology 105 (3) and Botany 105 (3) (biological science), Anthropology 101 (3) and Geography 101 (3) or 231 (3) (social science), Philosophy 381 (2) (humanities and fine arts).

Recommended Curriculum for Bachelor of Science Degree in Geology

Freshman Year

	F	S
Geol. 111, 112	4	4
Math. 105, 106	3	3
Engl. 111, 112	3	3
Bot. 105		3
Health 130	2	
P.E.	½	½
Undergrad. Relig. 121, 122	2	2
	14½	15½

Sophomore Year

	F	S
Geol. 351, 352	5	3
Chem. 105, 106	4	4
Math. 109		4
Stat. 221	3	
Hist. 170		3
Phil. 381	2	
P.E.	½	½
Undergrad. relig.	2	2
	16½	16½

Junior Year

	F	S
Geol. 311, 312	4	1
Geol. 313		3
Physics 201, 202	5	5
Zool. 105	3	
Geog. 101 or 231		3
Electives (humanities)	2	2
Undergrad. relig.	2	2
	16	16

Summer School

	Su
Geol. 410	4

Senior Year

	F	S
Geol. 470, 460	3	4
Geol. 480	4	
Geol. 591A,B,C, or D	1	1
Anthrop. 101		3
Undergrad. relig.	2	2
Electives	6	6
	16	16

Elective hours in the senior year are left to the discretion of the student. Used wisely, the electives can greatly strengthen any area of special interest and can supply a very strong undergraduate background for the pursuit of graduate work in any phase of geology at any major university. For students desiring to prepare for graduate study in one of the specialized subsciences, the following courses are recommended as electives:

General geology preparatory courses:
  Geography 312 (2 hrs.)

Geophysics preparatory courses:
  Physics 211, 212, 213, 214 (10 hrs.) in place of Physics 201, 202 (10 hrs.)
  Chemistry 111, 112 (10 hrs.) in place of Chemistry 105, 106 (8 hrs.)
  Math. 113 (4 hrs.), 214 (3 hrs.) and 434 (3 hrs.)
  Chemistry 361, 462 (6 hrs.)

Mineralogy preparatory courses:
  Physics 211, 212, 213, 214 (10 hrs.) in place of Physics 201, 202 (10 hrs.)
  Physics 315 (3 hrs.)
  Math. 113 (4 hrs.)

Paleontology preparatory courses:
  Zoology 212 (4 hrs.) and 213 (4 hrs.) or 363 (4 hrs.)
  Zoology 376 (4 hrs.)
  Geology 580, 581 (8 hrs.) in place of Geology 480 (4 hrs.)

Graduate Studies in Geology. The Department of Geology offers graduate study leading to the Master of Science degree in geology and the Doctor of Philosophy degree in geology within any one of five major areas of specialization. Below are listed those geology course numbers under the major area heading to which they apply:

1. Economic Geology:
   Geology 507, 510, 512, 520, 530, 535, 540, 545, 546, 551, 552, 561, 562, and 563.
2. Mineralogy, Geochemistry, and Petrology:
   Geology 507, 510, 512, 540, 545, 546, 551, 552, 561, 562, 653, 655, 656, 657, 671, and 672; Physics 581 and 582.
3. Paleontology:
   Geology 507, 510, 512, 540, 551, 574, 575, 576, 577, 580, 581, 582, 583, 680, 682, and 685; Botany 539 and 678.
4. Stratigraphy and Sedimentation:
   Geology 507, 510, 511, 512, 540, 551, 574, 575, 576, 577, 583, 653, 670, 671, 672, and 678.
5. Structural and Field Geology:
   Geology 507, 510, 511, 512, 530, 540, 551, 610, 615, 657, 670, 671, 672, and 678.

Geology 591A,B,C, and D (Seminar) and Geology 512 (Geology of North America) are required of all graduate geology students.

It is assumed that any student seeking any graduate degree in geology at Brigham Young University has had undergraduate preparation essentially equivalent to that required by the Geology Department of Brigham Young University; otherwise, remedial undergraduate work may be required.

Master's Degree in Geology. (For general requirements see Graduate School regulations.) Departmental requirements specifically for the Master of Science degree in geology are

1. Written exploratory examination covering undergraduate studies given at the beginning of the graduate program and at the discretion of the geology faculty.
2. At least fifteen hours of formal course work in one of the five major areas listed above and at least nine hours of formal course work in a minor field.
3. Comprehensive oral examination on graduate course work prior to thesis defense.
4. Six hours of thesis work embodying the results of research under the supervision of a faculty thesis committee chairman.
5. Final oral examination on thesis research.

Doctor of Philosophy Degree in Geology. (For general requirements see Graduate School regulations.) Departmental requirements specifically for the Doctor of Philosophy degree in geology are

1. Written exploratory examination covering undergraduate and previous graduate studies, given at the beginning of the Ph.D. program and at the discretion of the geology faculty.
2. Completion of formal course, as outlined by the student's graduate advisory committee, in one of the five major areas listed above and completion of a minor field. (The minor may be in a related field outside the Department of Geology in which upper-division and graduate courses will be acceptable.)
3. Successful completion of Graduate School foreign language examinations.
4. Comprehensive examination after sixty hours of graduate study and at least one academic year prior to graduation.
5. Dissertation embodying the results of original, independent research.
6. Oral defense of the dissertation before a formally appointed committee at the close of the final year of study.

Geological Engineering Major. The curriculum for geological engineering is a five-year professional program leading to the degree of Bachelor of Engineering Sciences (B.E.S.).

As engineering, in general, tends to be concerned with application of the principles of physics, chemistry, and mathematics to the practical problems of industry, geological engineering applies the additional principles of geology to practical problems of the minerals industries and other phases of engineering. Geological engineers tend to concentrate their efforts in one of the four following areas in interest depending upon the practical application of their training: (1) petroleum, (2) mining, (3) groundwater, and (4) heavy construction.

Electives in the senior and fifth year curricula allow concentration in one or more of these major areas.

Required Curriculum for Geological Engineering

Freshman Year

	F	S
Geol. 111*	4	
Geol. 112		4
Engl. 111, 112	3	3
Math. 111, 112	5	5
C.E. 100	1	
C.E. 101		2
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Health 130	2	
	17½	16½

Sophomore Year

	F	S
Math. 113, 321	5	3
Chem. 111, 112	5	5
Physics 211, 213	4	4
Physics 212, 214	1	1
Undergrad. relig.	2	2
P.E.	½	½
History 170		3
	17½	18½

*Geology 330 (geology for engineers) may be substituted for Geology 111.

Junior Year

	F	S
Geol. 351, 352	5	3
Geol. 311, 312	4	1
Geol. 313		3
C.E. 102, 201	2	3
M.E. 321		3
Undergrad. relig.	2	2
Zool. 105		3
Social sci. elective	2	
Humanities (Philosophy 381)	2	
	17	18

Summer Junior Year

Geol. 410	4

Senior Year

	F	S
Geol. 470, 460	3	4
C.E. 211, 304	3	3
C.E. 303, 332	3	3
Undergrad. relig.	2	2
Bot. 205	2	
Professional electives*	4	5
	17	17

Fifth Year

	F	S
C.E. 341, 431	4	3
Social sci. (Geog. 231)		3
Humanities elective	4	
Professional electives*	9	11
	17	17

*During the senior and fifth years, 25 to 33 semester hours may be selected from the following professional electives:

Agron. 282. General Soils (4:3:3) F.S.
Agron. 303. Soil Genesis (2:2:2) F.
Geol. 512. Geology of North America (4:3:2) S.
Geol. 520. Petroleum Geology (4:4:0) S.
Geol. 535. Groundwater (4:4:0) F.
Geol. 545. Geochemistry (4:3:2) F.
Geol. 546. Geochemistry (4:3:2) S.
Geol. 551. Optical Crystallography (4:2:4) F.
Geol. 561. Ore Deposits (4:3:2) F.
Geol. 562. Industrial Minerals & Rocks (3:3:0) F.
Geol. 563. Mineral Mining, Processing & Utilization (3:3:0) S.

Geol. 610. Adv. Structural Geology (3:3:0) F.
Geol. 615. Photogeology (3:1:4) S.

Courses

101. Introduction to Geology. (2:2:0) F.S.Su. Home Study also. **(G-PS m)**
A cultural nontechnical course dealing with physical geology. Designed for the nonscience student who desires a broad introduction to earth science and a greater appreciation of his surroundings. May be taken with or without Geol. 102. Annual two-day field trip through central and southern Utah is sponsored each spring for all Geol. 101, 102, and 103 students of the year.

102. Introduction to Geology Laboratory. (1:0:2) F.S.Su. (G-PS m)
Laboratory course (including a local field trip) in which common rock and ore-forming minerals, common rocks, and maps will be studied. For annual field trip, see Geol. 101.

103. Life of the Past. (3:3:0) F.S.Su. Home study also. (G-PS m)
A cultural nontechnical course in historical geology. Designed for the nonscience student who desires an understanding of life forms and general historical events of the geologic past. Fossils studied in laboratory. For annual field trip, see Geol. 101.

111. Physical Geology. (4:3:2) F.S. (G-PS m) Hamblin
Materials, structure and surface features of the Earth and the geologic processes involved in their development. Field trips cost approximately $25. Not recommended for students who have taken Geol. 101 and 102.

112. Historical Geology. (4:3:2) F.S. (G-PS m) Prerequisite: Geol. 111. Hintze
The history of the earth and the evolution of its inhabitants. Representative fossils are studied in the laboratory. Required field trips cost approximately $35.

306. Landforms and Their Origin. (3:3:0) S. Home Study also. (Offered in 1968-69 and alternate years) (G-PS m) Prerequisite: Geol. 101 or Geol. 111. Bushman
The earth's landscape features and their origin, dealing with the sculpturing of mountains, hills, plains, and plateaus by erosive processes, and the landform features produced by earth movements and volcanism. Designed especially for nonmajors.

311. Structural Geology. (4:3:2) F. Prerequisites: Geol. 352 and Math. 111. Hintze
Structural and physiographic features of the earth's crust and forces and agents which have produced them.

312. Geological Literature and Scientific Report Writing. (1:1:0) S. Prerequisite: successful completion of Junior English Proficiency Exam. Best
Introduction to indexes and various sources of geologic literature. Written exercises on format, style, and expression of various kinds of geologic reports.

313. Geologic Methods. (3:2:2) S. Prerequisite: Geol. 311. Bissell
Practice training in methods of geologic field work and the use of field instruments; office practice in geologic illustration.

330. Geology for Engineers. (3:2:3) F. Brimhall
Origin and occurrence of earth materials and structures emphasizing geologic processes related to engineering problems in underground water, foundation structures and use of earth materials.

351. Mineralogy. (5:3:4) F. (m) Prerequisite: Chem. 105 or 111; concurrent registration accepted. Phillips
Crystal chemistry and structure and its expression in physical and crystallographic properties of minerals. Hand specimen identification of rock-forming minerals.

352. Petrology. (3:2:2) S. (m) Prerequisite: Geol. 351. Best

Rock-forming minerals and their occurrence in igneous, sedimentary, and metamorphic rocks.

410. Summer Field Camp. (4:0:40) Su. only; see summer catalog. Prerequisites: Geol. 313, 492.

A five-week summer field camp in geologic mapping. Required of all geology and geological engineering majors.

460. Principles of Economic Geology. (4:3:2) S. Prerequisite: Geol. 352. Bullock

Principles and processes of formation of metallic, nonmetallic, and mineral fuel deposits and their occurrence. Laboratory study of the common ore-forming minerals.

470. Stratigraphy and Sedimentation. (3:2:2) F. Prerequisite: Geol. 352. Bushman

Analytical study of sediments and their origin and study of the principles of stratigraphy.

480. Introduction to Paleontology. (4:3:2) F. Prerequisite: Geol. 112. Petersen

Systematic study of fossil remains of invertebrate animals, and introductory study of their structure, distribution, and development in past ages.

492. Seminar for Summer Field Camp. (1:1:0) S.

496. Readings in Geology (Honors Program). (1-2:0:3-6) F.S. Hamblin

Directed reading of challenging books and articles dealing with fundamental geologic problems.

501. Rocks and Minerals. (2:2:0) F.S. (m) Bullock

Introductory study of fundamentals of rock and mineral classification and identification. Designed to acquaint the student with the earth's common raw materials, their occurrences, and uses. For nongeology majors.

502. Geology for Teachers. (2:2:0) S.Su. Home Study also. (m) Prerequisites: Geol. 101 and 102, or Geol. 103, or Geol. 111. Bushman

Designed to aid junior and senior high school teachers of earth science or geology. Emphasis on acquainting the teacher with materials and methods useful for the classroom.

507. History of Geology. (2:2:0) F. (Offered 1968-69 and alternate years) Bushman

The historical development of geology and the men who contributed to it; the concepts and philosophy that make geology distinct from other sciences.

510. Conducted Field Trips. (1-3:Arr.:Arr.) S.Su. Prerequisite: Geol. 101, 103, or 111.

Visits to and explanations of a variety of geologic features spectacularly displayed in Intermountain West. Credit varies with number and length of trips in which student participates, but in general 30 hours will be spent in the field for each credit hour. Preparation for and review of each trip will be conducted on campus. Maximum credit allowable is 3 hours.

511. Geomorphology. (3:3:0) S. (Offered 1968-69 and alternate years) Bushman

The historical development of geomorphic concepts. The description of land forms and evaluation of the processes that formed them, and the application of this knowledge to paleogeography and economic geology.

512. Geology of North America. (4:3:2) S. Rigby

A region-by-region study of the areal geology, physiography, and geologic development of Canada, the United States, and Mexico.

☐ **Chemistry 514. Inorganic Chemistry.** (3:3:0)

520. Petroleum Geology. (4:4:0) S. (Offered 1969-70 and alternate years) Hansen

Origin, classification, physical properties, distribution, accumulation, and methods of exploration of petroleum.

530. Engineering Geology. (3:3:0) S. (Offered 1969-70 and alternate years) Hansen

Geological principles and phenomena important to an understanding of engineering problems (especially civil engineering), and the relationships which exist between the science of geology and the practical aspects of engineering.

535. Ground Water. (4:4:0) F. Hansen

Origin, classification, migration, distribution, and production of water found beneath the earth's surface.

☐ **Botany 539. Paleobotany.** (3:2:3) S. Tidwell

540. Geophysics and Constitution of the Earth. (2:2:0) F. (Offered 1969-70 and alternate years) Best

Introduction to seismic, gravitative, magnetic and thermal behavior of the Earth emphasizing application of these to interpretation of mantle and crustal phenomena.

545. Geochemistry. (4:3:2) F. Prerequisite: consent of instructor. Brimhall

Chemical and isotopic examination of geological processes regarding elements H to Kr. Formation, age, heat balance, geochemical differentiation of the earth. Laboratory emphasizes modern analytical instruments.

546. Geochemistry. (4:3:2) S. Prerequisite: Geol. 545. Brimhall

Continuation of Geology 545 regarding elements in periods 5 through 7, Rb to U.

551. Optical Crystallography. (4:2:4) F. Prerequisites: Geol. 351, Physics 202 or 213. Phillips

Behavior of light in isotropic and anisotropic media and its application to mineral identification in fragments and thin section using the universal stage.

552. Igneous and Metamorphic Petrography. (3:2:2) S. Prerequisites: Geol. 352 and 551. Phillips

Micro-structures, textures, and mineral associations in igneous and metamorphic rocks. Classification systems (Johannsen, C.I.P.W.) and application of phase diagrams to mineral associations.

561. Ore Deposits. (4:4:0) F. Prerequisite: Geol. 460. Bullock

Metallic ore deposits, their origin, classification and distribution. Some of the major ore deposits of the United States will be studied.

562. Industrial Minerals and Rocks. (3:3:0) S. (Offered 1968-69 and alternate years) Prerequisite: Geol. 460. Bullock

Study of industrial minerals and rocks, their mode of occurrence, distribution, and application in the modern world.

563. Mineral Mining, Processing, and Utilization. (3:3:0) S. (Offered 1969-70 and alternate years) Prerequisite: Geol. 460. Bullock

Study of the major mineral commodities of the world, including their geologic occurrence, exploration, development, mining methods, beneficiation, processing, utilization, and statistics.

574. Principles of Stratigraphy. (3:2:2) F. (Offered 1968-69 and alternate years) Prerequisite: Geol. 470. Bissell

Study and interpretation of stratified rocks; principles of their origin, distribution, and correlation.

575. Precambrian and Paleozoic Stratigraphy. (3:3:0) F. (Offered 1968-69 and alternate years) Hintze
Synthesis of regional stratigraphic relation in North America.

576. Mesozoic and Cenozoic Stratigraphy. (3:3:0) S. (Offered 1968-69 and alternate years) Hamblin
Basins of deposition of Mesozoic and Cenozoic rocks in the U.S. and key fossils associated with them. Special emphasis on the distribution of these rocks in the state of Utah.

577. Oceanography. (3:3:0) F. (Offered 1968-69 and alternate years) Prerequisite: Geol. 470. Hamblin
A study of physical processes operating within oceans. Particular emphasis on dynamics of currents, waves, and tides, and the resulting shoreline topography, sedimentary patterns, and sea floor features.

580. Invertebrate Paleontology (Protozoans through Brachiopods). (4:3:2) F. (Offered 1969-70 and alternate years) Rigby
Designed for the upper-division and the graduate student who desires a broad background in paleozoology including morphology, paleoecology, evolution, and stratigraphic significance of invertebrates. Basic course for student planning to do graduate work in paleontology or stratigraphy.

581. Invertebrate Paleontology (Mollusks through Hemichordates). (4:3:2) S. (Offered 1969-70 and alternate years) Peterson
Continuation of Geol. 580.

☐ **Physics 581. Introduction to X-Ray Diffraction.** (3:2:2) F. Barnett

☐ **Physics 582. X-Ray Crystallography.** (3:2:2) S. Barnett

582. Biostratigraphy. (3:2:2) F. (Offered 1969-70 and alternate years) Prerequisite: Geol. 480 or 581. Braithwaite
Fossils in their stratigraphic setting and principles of paleontologic chronology.

583. Palynology. (3:2:3) F. (Offered 1968-69 and alternate years) Prerequisites: Bot. 105, Geol. 480. Bushman
Fossil and modern spores and pollens, laboratory techniques in their extraction and identification, application to problems of stratigraphic correlation and paleoecologic interpretation.

591A,B,C,D. Seminar. (1:1:0 ea.) F.S.
Required of all graduate students, and required attendance of all seniors.

610. Structural Geology. (3:3:0) F. (Offered 1969-70 and alternate years) Hintze
Earth structures and their origin, emphasizing foreign examples.

615. Photogeology. (3:1:4) S. (Offered 1968-69 and alternate years) Hintze
Techniques useful to practicing geologists; use of parallax bar and various instruments applicable to contact print photos.

655. Igneous Petrology. (5:4:3) S. Prerequisite: Geol. 551. Best
Phase and compositional relations in magmatic systems. Equilibria in simple silicate systems. Evolution of magmas. Field and laboratory study of selected igneous rock suites.

656. Metamorphic Petrology. (3:2:3) F. Prerequisite: Geol. 655. Best
Subsolidus mineral equilibria; thermodynamic concepts; geologic variables in metamorphic systems; graphical analysis of mineral assemblages; laboratory study of textural and compositional relations of metamorphic minerals.

657. Structural Geology of Metamorphic Rocks. (3:2:3) F. (Offered 1969-70 and alternate years) Prerequisite: Geol. 311. Best

Graphic analysis of linear and planar structures in simple and complex fold systems; mechanical behavior of strained rocks; field and laboratory study of metamorphic rocks.

670. Sedimentation and Sedimentary Tectonics. (3:2:2) S. (Offered 1968-69 and alternate years) Bissell

Fundamental concepts in the science of sedimentology, and laboratory exercises illustrative of processes of sedimentation followed by review and discussions of tectonic environments which control sedimentation. Field trips are taken into areas illustrative of the subject matter.

671. Sedimentary Petrology—Carbonate Rocks. (3:3:2) F. (Offered 1969-70 and alternate years) Bissell

Field and laboratory classifications and studies of carbonate sedimentary rocks.

672. Sedimentary Petrology—Clastic Rocks. (3:2:2) S. (Offered 1969-70 and alternate years) **Prerequisite: Geol. 470.** **Hamblin**

Field and laboratory study and classification of clastic rocks, particularly sandstones.

☐ **Botany 678. Organic Evolution.** (3:3:0) S. Stutz

678. Subsurface Methods. (3:2:2) S. (Offered 1969-70 and alternate years) Prerequisite: Geol. 551. Bushman

To acquaint the student with the tools and techniques employed by the subsurface geologist in describing the lithologic characteristics of subsurface rock; the use of this information for interpreting sedimentation environments, geologic structures, and stratigraphic correlation.

680. Micropaleontology. (3:2:2) S. (Offered 1968-69 and alternate years) Prerequisite: Geol. 480 or 581. Braithwaite

A systematic study of the geologically important microfossils, including techniques, morphology, and stratigraphic significance. Conodonts, ostracodes, and foraminifera are stressed.

682. Vertebrate Paleontology. (3:3:0) F. (Offered 1868-69 and alternate years) Prerequisite: Geol. 480 or 581, or consent of instructor. Petersen

The backboned animals through time (Agnatha through Mammalia). Morphology, ecology, phylogeny, and stratigraphic significance are stressed.

685. Paleoecology. (4:3:2) S. (Offered 1968-69 and alternate years) Prerequisite: Geol. 480 or 581. Rigby

Interpretation of ancient environments and of the adaptation of organisms to these environments as shown by a systematic treatment of each of the major taxonomic groups and by selected analyses from the professional geologic literature.

696. Reading and Conference in Geology. (1-4:1-4:0) F.S.Su.

697. Directed Field Studies. (1-6:Arr.:Arr.) F.S.Su.

Supervised field work in any of the fields of specialization in geology for candidates for master's degree.

698. Research. (1-4:1-4:0) F.S.Su.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su. (m)

797. Directed Field Studies. (1-6:Arr.:Arr.) F.S.Su.

Supervised field work in any of the fields of specialization in geology for candidates for Ph.D. degrees.

799. Dissertation for Doctor of Philosophy Degree. (Arr.) F.S.Su.

Graduate Department of Education

Professors: Alley, Bauer, Belt, Berryessa, Burrup, Callahan, Christensen, Clarke, Daines, Downing, Egbert, Geddes, Harris, Hartvigsen, Holbrook, Jensen, Lloyd, Moffitt, Morrill, Ovard, Reid, Romney, Smith.

Associate Professors: Babcock, Baird, Barnett (emeritus), Cottrell, Flandro, Harms, Kelly, Moses, Ord, Pinegar, Rohde, Sucher, Van Alfen (chairman, 205 McK), Wilcox, Wilson.

Assistant Professors: H. Allred, Harmon, Harrison, Hendrix, Herlin, LaPray, Merrill, Ravsten, Shute.

The Graduate Department of Education is organized to offer courses for all persons engaged in professional education and service courses to graduate students in other disciplines.

Programs are designed to give special training to school administrators, school business managers, supervisors, curriculum directors, educational psychologists, school psychologists, specialists in counseling and guidance, reading specialists, teachers of special education, and master teachers. Such programs are at once intensive and broad in scope. They are designed to give the depth and breadth needed by specialists in education.

Graduate Degrees. The department offers graduate degrees at both the master's and doctoral levels. The Master of Arts and the Master of Education degrees are offered. In addition, both the Doctor of Education and the Doctor of Philosophy are offered by this department. (For details of these programs see the graduate bulletin.)

A two-year certificate, Specialist in Education, is offered for school superintendents, assistant superintendents, elementary and secondary school principals, supervisors, curriculum consultants, school counselors, reading specialists, school psychologists, and special education coordinators.

Courses

514, 515. Analysis of In-Service Problems. (1-3:1-3:1 ea.) F.S.Su.

534. Experimental Practices in Teaching. (3:3:1) F.Su. Ord, Berryessa

Current concepts in elementary education with observation and analysis of some of the best teaching practices. Designed to meet the needs of persons seeking a refresher course, and for prospective administrative personnel in the elementary schools.

547. Foundations in Reading. (3:3:0) F.S.Su. Daines, Sucher

A consideration of the various approaches to reading. A detailed study of readiness for reading and the different techniques of word recognition as developed in kindergarten through grade twelve.

548. Directed Observation in the Elementary School. (2:0:4) F.S.

Directed observation with elementary school pupils. Required for speech therapists who do not have elementary certificates; recommended for teachers who are recertifying and others.

549. Directed Observation in the Secondary School. (2:0:4) F.S.

Directed observation with secondary school pupils. Required for speech therapists who do not have secondary certificates; recommended for teachers who are recertifying and others.

550. Introduction to Guidance Services. (2:2:0) F.S.Su. Home Study also. Downing, Reid

Principles and practices of pupil personnel services in the public schools. Designed for prospective teachers of both elementary and secondary levels. Required but may not be counted as part of the 30 hours for the master's degree by students majoring in this area of specialization.

551. Evaluation of Educational and Psychological Literature. (2:2:0) S.Su. Egbert

A consideration of the nature of various kinds of educational publications and of problems involved in interpreting their contents. Not intended for students seeking graduate degrees.

552. Statistical Methods. (2:2:0) F.Su. Hendrix

Measures of central tendency, variability, and linear correlation. Elementary concepts of probability and inference are also discussed. Required but may not be counted as part of the 30 hours for the master's degree by students majoring in this department.

554. Advanced Statistics. (2:2:0) S.Su. Prerequisite: Grad. Ed. 552. Hendrix

Educational applications of analysis of variance; analysis of covariance; multiple and partial correlation; nonparametric methods.

560. Educational Tests and Measurements. (3:3:0) F.S.Su. Home Study also. Harris

Principles of standardized testing in the schools. Construction and use of classroom tests. Consideration also given to evaluation techniques other than testing.

562. Problems and Methods in the Education of the Visually Handicapped. (3:3:0) S.Su. Prerequisites: Tchr. Ed. 460, 462, 463. Craig

Problems confronting administrator and teacher in the different types of school programs now available for the visually handicapped. Specialized teaching methods and materials.

563. Advanced Braille. (2:2:0)

Study of the "Nemeth Code of Braille Mathematics and Scientific Notation" and of transcription formats and techniques.

565. Problems in the Education of Emotionally Handicapped Children. (3:3:1) S.Su. Prerequisites: consent of instructor, Tchr. Ed. 360. LaPray

Organization of educational programs, curricular development and teaching methods for students with emotional problems.

566. Problems in the Education of Orthopedically Handicapped Children. (3:3:1) F.S.Su. Prerequisites: Tchr. Ed. 360, 465. Wilson

Problems of identification, diagnosis and placement, organization of educational programs, curriculum development, and teaching methods for students with orthopedic handicaps including the homebound and hospitalized.

567. Problems in the Education of Mentally Retarded Children. (3:2:2) F.S.Su. Prerequisites: Tchr. Ed. 460, 461. Pinegar, Wilson

Problems of identification, diagnosis and placement, organization of educational programs, curriculum development and teaching methods for classes for mentally retarded students.

568A,B,C,D,E. Observation and Participation in Special Education. (2:1:4 ea.) F.S.Su. Prerequisite: consent of instructor.

A—Mentally Retarded; B—Orthopedically Handicapped; C—Visually Handicapped; D—Emotionally Disturbed.

Observation and participation in classes for handicapped children. Designed to develop readiness for practicum experience. A laboratory fee of $15.00 is charged, payable upon application for student teaching.

569A,B,C,D,E. Practicum in Special Education. (2-4:0:5-10 ea.) Arr. Prerequisite: consent of instructor.

A—Mentally Retarded; B—Orthopedically Handicapped; C—Visually Handicapped; D—Emotionally Disturbed.

A laboratory fee of $15.00 is charged, payable upon application for student teaching.

570. Problems in Education of Children with Neurological Impairment. (3:3:0) F.Su. Prerequisite: Tchr. Ed. 360 or consent of instructor. Wilson

Principles and special techniques and materials for teaching children with learning disabilities related to neurological impairment.

572. Educational Evaluation of Communication Disabilities. (2:2:4) LaPray, Low, Pinegar, Wilson

Principles and practices of evaluating communication disabilities of children with emphasis on prescribing education-habilitation procedures. Designed for graduate students in special education, speech pathology-audiology, and other school specialists.

573. Workshop for Teachers of Bilingual Children. (2:8 hrs./day for 2 weeks) Su.

Study of educational needs, materials, and methods appropriate to the background and language problems of bilingual students.

578. Practicum for Elementary Teaching. (2-4-8:2-4-8:5-10-20) Arr.

579. Practicum for Secondary Teaching. (2-4-8:2-4-8:5-10-20) Arr.

601. Comparative Current Educational Philosophy. (3:3:0) F.S.Su. (m) Alley, Harmon

603. Educational Classics and Contemporary Issues. (3:3:0) F. (m) Lloyd

606. History of Education in Europe and America. (4:4:0) S.Su. (m) Alley

607. Education in a World Setting. (2:2:0) S. Lloyd, Romney

608. Social Foundations of Education. (3:3:0) F.S.Su. (m) Clark, Harmon

609. Selection and Utilization of Audio-Visual Materials. (2:2:0) F.S.Su.

Students are taught the unique contributions of each audio-visual material, methods of selecting nonbook materials, proper utilization of the items of a teaching situation, and familiarity with various types of instructional materials. The building of a proper collection of audio-visual materials for a school media center is also examined.

610. Development of Instructional Materials (Audio-Visual Aids). (2:2:1) F.Su. Prerequisite: Tchr. Ed. 406 or equivalent.

An advanced course designed to follow Tchr. Ed. 406.

Principles of learning and the unique contributions of newer instructional media. Of primary concern is the selection, integration, and administration of instructional equipment and materials. Construction and use of specialized materials.

611. Administering Instructional Media. (2:2:0) Su.

Explores the history of the media fields and examines their relationships, current trends, philosophy, and their roles in education today. The various administrative techniques and actual practices in the media field are examined. Students are required to develop and outline a media program for a local school and typical school district.

612. Supervision of Student Teachers. (2:2:0) Su.

For those desiring a well-rounded view of the student-teaching program.

613. Teaching Speech in Secondary Schools. (2:2:0) Su. Clinger

616. Analysis of In-service Problems. (1-3:1-3:1) F.S.Su.

619. Directing Out-of-Class Activities in Secondary Schools. (2:2:0) Su. Callahan, Flandro

Examination of successful practices in scheduling and directing out-of-class activities. The effect of current scientific curriculum emphasis on out-of-class activities is explored.

620. Internship in Reading. (4:0:12) Arr. Prerequisite: consent of instructor. Daines, Sucher

Designed to provide experiences for practical work either in the reading center or public schools.

622. Advanced Study in Childhood Education. (2:2:0) F. Daines

Educational theory and analysis of current practices in schools as they are related to the significance and problems of early childhood education.

623. Science in the Elementary School. (2:2:0) S.Su. Berryessa, Babcock

Designed to give experienced teachers insight into the teaching of elementary science. Includes concentration in unit instruction and methods of presenting science concepts to children.

624. Advanced Arts and Crafts for Elementary Teachers. (2:2:1) Su. Prerequisite: consent of instructor.

Exploring ideas and materials for the instruction of elementary school children. Attention is given to the specific needs of each course member.

625. Social Studies in the Elementary School. (2:2:0) S.Su. Ord, Berryessa

The scope and sequence of the social studies program, its objectives in developing democratic citizenship, and the methods employed in accomplishing this aim.

626. Methods in the Elementary School—Traditional and Newer Media. (3:3:0) S.Su. Ord

Not open to students who have taken Grad. Ed. 639.

Assessment of readiness; problems of organizing pupils and faculty for instruction, guiding, and pacing; and evaluation.

627. Reading in the Curriculum. (2:2:0) F.S.Su. Daines, Sucher

Reading in the different content areas. Study of comprehension and study skills as developed in kindergarten through grade twelve.

628. Children's Literature. (2:2:0) S.Su. Prerequisite: Tchr. Ed. 340.

Study of the history, authors, illustrators, and types of children's literature. Exploring and evaluating new books for children. Special attention to reading interests at various age levels.

630. Teaching Mathematics and Sciences in Secondary Schools. (2:2:0) Su.

Designed especially for in-service teachers. Emphasis given to the newer methods, materials, and trends in science and mathematics instruction. Lesson plans developed.

631. Curriculum Development in the Elementary School. (3:3:0) S.Su. Daines, Ord

Principles and procedures for organizing the instructional program; patterns of curriculum organization; and techniques for change, evaluation, and stabilization of curriculum.

632. Research and Literature in Reading. (2:2:0) S.Su. Prerequisites: Grad. Ed. 547 and 627. Daines, Sucher

Study of the history of reading. Emphasis placed on the research and current literature in the teaching of reading from kindergarten through grade twelve.

633. Language Arts in the Elementary School. (2:2:0) F.Su. Daines

Best practices in modern methods of instruction in listening, speaking, and writing with their related skills.

634. Arithmetic in the Elementary School. (2:2:0) F.S.Su. Brown

An examination of current trends in mathematics education for elementary teachers. Special emphasis given to modern concepts, discovery teaching methods, and preparation of instructional materials.

635. Teaching Social Studies in Secondary Schools. (2:2:0) S.Su. Flandro

Designed to broaden the understanding of curriculum and instruction in secondary school social studies. Relates methods and techniques to the objectives of the social studies.

636. Curriculum Development in the Secondary School. (3:3:0) F.S.Su. Belt, Callahan

Not open to students who have taken Grad. Ed. 631.

Analysis of secondary curriculum development in terms of psychological and philosophical principles. Curriculum issues, trends, and current practices are examined.

637. Organization and Supervision of Reading Programs. (2:2:0) F.S. Daines

Study of various approaches to teaching reading and ways to organize and supervise reading programs from grades kindergarten through twelve. Practicum experience included.

To be taken toward completion of program and with consent of instructor.

639. Methods in the Secondary School—Traditional and Newer Media. (3:3:0) F.Su. Callahan, Van Alfen

Not open to students who have taken Grad. Ed. 626.

Problems of organizing pupils and faculty for instruction; analysis of methods; patterns of grouping; programmed learning; team teaching.

640. The Junior College. (3:3:0) F.S.Su. Christensen, Smith

An analysis of the junior college movement in the United States including the history, philosophy, purposes and objectives, and curriculum.

642. Methods of College Instruction. (3:3:0) F.S.Su. Belt

An analysis of appropriate instructional procedures and practices in the college. Relationship of abilities and interests of college students to instructional methods. Familiarity with new teaching materials and instructional practices.

644. Directed Teaching in College. (2:4:0) F.S.Su. Smith

A course designed to assist students to become skilled teachers at the two-year and four-year college level; to participate as a member of a college staff; and to prepare for employment at a collegiate institution.

645. Guidance Testing and Diagnosis. (3:3:0) F.S.Su. Prerequisites: Grad. Ed. 550 and 552. Harris, Jensen

Study of advantages and disadvantages of particular types of tests, practice in interpreting test results, and the implications of test choices and usage.

646. Counseling Theory and Practice. (3:3:0) F.S.Su. Prerequisites or concurrent: Grad. Ed. 645; Psych. 450 or 550. Downing, Kelly

Includes an intensive study of the various theories of counseling, important concepts and views of counseling authorities, current research, and accepted practices.

647. Group Techniques for Counselors. (2:2:0) S.Su. Prerequisite: Grad. Ed. 646. Allred, Rohde

Principles of group guidance and their application.

650. Guidance Workshop. (2:2:0) Arr. Prerequisite: Grad. Ed. 550. Downing

651. Informational Services in Guidance. (3:3:0) F.S.Su. Prerequisite: Grad. Ed. 550. Downing

Consideration of various aspects of vocation selection including sources of information, use of community resources, counseling procedures, and the filing and use of occupational data. Theories and psychological factors of career selection emphasized.

652. Administration of Guidance Services. (2:2:0) S.Su. Prerequisite: Grad. Ed. 550. Reid

Major consideration given to the procedures of organizing and administering guidance programs, and methods of dealing with the problems related to these activities.

653. Student Personnel Services in Higher Education. (2:2:0) S. Prerequisite: Grad. Ed. 550. Lloyd, Smith

654. Problems of the Elementary School Guidance Program. (2:2:0) Arr. Downing, Rohde

An intensive consideration of the problems of conducting a guidance program in the elementary school, and the determination of guidance and counseling procedures.

656. Advanced Educational Psychology. (3:3:1) F.S.Su. Prerequisite: Tchr. Ed. 403. Bauer, Downing

Principles of effective human learning. Discussion of major learning theories and their significance for classroom procedures and for general educational theory.

657. Behavior Problems in the Schools. (2:2:0) F.S.Su. Prerequisite: Tchr. Ed. 403. Bauer, Downing

Study of mental hygiene principles and their application to typical classroom problems.

659. Educational and Psychological Principles of Programmed Learning. (3:3:2) S.Su. Prerequisite: Psych. 560 or Grad. Ed. 656. Bauer, Merrill

Principles involved in the development of programs, and a consideration of values and cautions in the utilization of various programs.

660. Educational Research and Thesis Writing. (2:2:0) F.S.Su. Prerequisite: Grad. Ed. 552. Cottrell, Harrison

The nature of science and the scientific method; methods of educational research; preparation of the research proposal; preparation of the research report.

661. Experimental Educational Psychology. (3:2:4) F. Prerequisites: Grad. Ed. 554 or Stat. 501, and Psych. 374 or Grad. Ed. 660. Egbert

Application of experimental techniques in psychology to problems of education. Particular attention given to research design in areas of human motivation and learning.

662. Curriculum Planning for the Mentally Retarded. (2:2:1) Su.

Advanced study of curriculum and methods; the development of materials and teaching aids for the mentally retarded.

663. Curriculum and Methods for the Visually Handicapped. (2:8 hrs./day for 2 weeks) Su.

Study of curriculum and methods; the development of materials and teaching aids for the visually handicapped.

664. Workshop: Curriculum and Methods for the Gifted. (2:8 hrs./day for 2 weeks) Su. Wilson

Study of curriculum and methods; development of materials and teaching aids for the gifted.

665A,B,C. Diagnosis of Learning Disabilities. (2:2:8-10 ea.) F.S.Su. Prerequisites: Grad. Ed. 570, 572, or consent of instructor. Bauer, Harrison, Wilson

Supervised training in techniques of using evaluative measures for the diagnosis of learning disabilities in the areas of A. Body Coordination, B. Perception, C. Psycholinguistics.

666. Special Education Services in Public Schools. (2:2:0) F.Su.

Problems of organization, administration and supervision of special education services in the public schools.

667. Diagnosis of Achievement Difficulties. (3:2:2) F.S.Su. Prerequisite: consent of instructor. Bauer, Harris, Herlin

Survey and use of diagnostic techniques in identification and evaluation of achievement difficulties.

668. Remedial Teaching Techniques. (3:2:2) F.S.Su. Prerequisites: Grad. Ed. 667 and consent of instructor. Bauer, Wilson

Procedures and materials appropriate for remediation of achievement difficulties with major emphasis in reading.

669. Guidance and Counseling for the Handicapped. (2:2:0) S.Su. Prerequisite: Tchr. Ed. 460.

Principles and techniques of guidance services for the physically, mentally or socially handicapped with study of effective counseling techniques. Required for California certification.

670. Observation and Participation in Remedial Teaching. (2:1:4) Arr.

Observation and participation in classes of children with academic handicaps.

671. Practicum in Testing and Counseling. (5:2:10) F.S.Su. Prerequisite: consent of instructor. Kelly

672. Practicum in School Psychology. (4:2:8) S.Su. Prerequisite: consent of instructor. Harris

Analysis of the role of the school psychologist. Supervised practice in testing, diagnosis, and case work with school-age children in a clinic setting.

673. Practicum in Remedial Teaching. (2-4:1-2:4-8) F.S.Su. Prerequisites: consent of instructor and Grad. Ed. 670.

Supervised experience in working with academically retarded children; including individualized program planning, remedial teaching techniques and evaluation. A fee of $15.00 for two semester hours and $25.00 for four semester hours is charged, payable upon application for practicum.

674A,B. Practicum in Learning Disabilities in the Classroom. (2:2:8-10 ea.) Prerequisites: Grad. Ed. 570 and 572 or consent of instructor.

Practicum experience in interpreting and utilizing the results obtained from evaluative measures in programming for individual students with learning disabilities. A—Diagnostic Teaching; B—Prescriptive Teaching.

675. Organization and Administration of Public Schools. (3:3:0) F.S.Su. (m) Christensen, Morrill

An introduction to the principles, practices, and procedures in modern public school administration. Particular emphasis on the problems and responsibilities of the school administrator.

677. Public School Finance. (2:2:0) F.S.Su. (m) Burrup

Designed with emphasis on theory, principles, and general practices of public school finance. Major emphasis includes understanding the problems of financing education; budgeting; equalization; management of school funds; the role of the local, the state, and the federal government in the financing of public education. (Special attention is given to Utah finance structure and problems.)

678. The Elementary School Principalship. (3:3:0) F.Su. (m) Harms

A study of the duties and role of the elementary school principal in providing leadership in the education of children and of the problems of elementary school administration. Required for advanced degrees and for certification in elementary school administration.

679. The Secondary School Principalship. (3:3:0) S.Su. (m) Ovard, Burrup

Understanding the leadership role of the principal in organizing and adapting the secondary school program to the educational needs of youth.

680. Field Work in Educational Administration. (3:1:4) F.S.Su. (m) Clarke, Moffitt

Intended to provide practical work experience on the job.

Students planning to register for Grad. Ed. 680 should obtain consent of the instructor six weeks prior to registration.

682. Personnel Problems of the School Staff. (2:2:0) S.Su. (m) Barnett

The meaning and scope of personnel problems.

685. Supervision of Education. (3:3:0) F.S.Su. (m) Harms

Development of an understanding of the principles of supervision, curriculum, planning and in-service training in the improvement of instruction.

687. School Law. (2:2:0) F.Su. (m) Barnett, Burrup

Treats the following areas and their relationship and function with education in the U.S.: legal terms as applied to education; origin and functional aspects of the law as it affects public education; parochial schools and public-financed educational institutions; organization and administration, legal aspects of state and local district school finance, personnel and pupil administration, and school boards.

690A,B,C. Seminar. (2:2:0 ea.) F.Su. (m)

A—Counseling; B—Special Education; C—Educational Psychology.

693, 694. Independent Readings. (1-2:3-6:0 ea.) F.S.Su. (m)

696, 697. Independent Research. (1-2:3-6:0 ea.) F.S.Su. (m)

698. Field Project. (2-4:Arr.:Arr.) F.S.Su.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

706. Objectives and Programs of Continuing Education. (2:2:0) Su. Shute

709. Philosophy of Program Planning. (2:2:0) S. Alley

721A,B,C. Internship in Elementary Education. (2-4:1-2:2-4 ea.) F.S.Su. Daines, Ord

A—Instruction; B—Curriculum; C—Supervision.

Involvement for a prolonged period of instructional experimentation, curriculum development, or supervision of in-service teachers in a school district recognized for the excellence of its instruction and curriculum. Emphasis is placed on the planning and implementation of experimental and developmental work under the supervision of qualified graduate instructors.

722A,B,C. Internship in Secondary Education. (2-4:1-2:2-4 ea.) F.S.Su. Belt, Callahan

A—Instruction; B—Curriculum; C—Supervision.

Involvement for a prolonged period of instructional experimentation, curriculum development, or supervision of in-service teachers in a school district recognized for the excellence of its instruction and curriculum. Emphasis is placed on the planning and implementation of experimental and developmental work under the supervision of qualified graduate instructors.

727. Curriculum of the Public Schools. (2:2:0) S.Su. Callahan, Daines, Smith

Study of (1) problems of articulation among all public school levels; (2) the continuity of the curriculum from one level to another; (3) the concerns of curriculum construction.

731. System Analysis and Design in Education. (2:2:0) F.Su. Egbert

The systems approach and its application to the analysis and design of educational systems. Includes procedures for introducing new media and methods in education.

740. Advanced Counseling Theory. (2:2:0) F.Su. Prerequisites: Grad. Ed. 646, Psych. 550. Downing, Kelly

Advanced work in counseling theory. Includes an intensive study of the various theories and their application to counseling.

741. Practicum in Counseling. (3:1:8) S. Prerequisite: consent of instructor. Anderson

Experience in counseling in a center. Open only to advanced doctoral students.

745. Internship in School Psychology. (2-4:1-2:4-8) Arr. Prerequisite: consent of instructor. Harris, Moses

Supervised practice in testing, diagnosis, and case work with children in the public schools. Variety of community experiences related to school psychology work.

755A,B. Internship in Educational Psychology. (4:2:8) F.S.Su. Prerequisite: consent of department chairman.

A—Special Education; B—Research.

Supervised practice in one or more of the following settings: schools, clinics, hospitals or laboratories. This experience will help prepare the student for advanced professional service in his special field.

760. Problems of Elementary School Administration. (2:2:0) F.S.Su. (m) Harms

A study of the problems, issues, and areas of difficulty encountered by the elementary school principal.

761. Problems in Secondary School Administration. (2:2:0) F.S.Su. Clarke, Ovard

This course would identify and select major problems of the modern secondary school principal and be concerned with the systematic and wise solution of major problems which affect the operation of the school.

762. The Junior High School. (2:2:0) S.Su. (m) Belt, Clarke

History, purposes, organization, present practices and problems.

763. The Senior High School. (2:2:0) F.Su. Belt, Clarke

Purposes, organization, curriculum.

765. Business Administration of the Public Schools. (3:3:0) Su. (m) Burrup

Covers the functions, organization and structure of business administration in public schools. Emphasis on income, budget preparation, auditing and central office business procedures.

768. Leadership Functions in Educational Administration. (3:3:0) F.S.Su. (m) Morrill

A study of developmental leadership theory, group processes, concepts, and strategies essential to successful administration leadership, with opportunity for some leadership experiences provided.

769. School-Community Relations. (2:2:0) F.S.Su. Moffitt, Morrill

The introduction and development of concepts, principles, and techniques in the organization, initiation, and operation of a planned program of school-public relations.

770. Organization and Administration of Continuing Education. (2:2:0) S.Su. (m) Shute

771. Junior College Organization and Administration. (2:2:0) S. (m) Oakes, Smith

A study of the organizational structure and administration of the junior college.

773. Public School Building Programs. (3:3:0) S.Su. (m) Morrill, Ovard

Principles, problems and practices in the planning, organization and administration of public school building programs.

775. Educational Administrative Theory. (3:3:0) F.S.Su. (m) Christensen, Oakes

Designed to provide insights into the development of a theory of educational administration in relation to the practical or empirical administrative functions.

780. Internship in Educational Administration. (2-6:0:6-18) F.S. Burrup, Christensen

790A,B,C. Seminar. (2:2:0) F.Su. Prerequisite: consent of instructor.

A—Educational Administration; B—Educational Measurement; C— Curriculum and Instruction.

791A,B,C. Seminar. (2:2:0) S.Su. Prerequisite: consent of instructor.

A—Educational Administration; B—Learning Theory Applied to Education; C—Curriculum and Instruction.

798. Field Project for Ed.D. Degree. (Arr.) F.S.Su.

799. Dissertation for Ph.D. Degree. (Arr.) F.S.Su.

DAVID O. McKAY BUILDING

David O. McKay Building

Guided Studies

Professor: Reid.

Assistant Professor: Herlin (chairman, West Crandall House).

Many students entering universities are not well equipped to do the academic work required of them. The purpose of the Department of Guided Studies of General College is to provide assistance that will enable such students to compete more effectively in their academic endeavors. Improvement classes are offered in such skills as reading, writing, mathematics, spelling, and effective study.

All students who enter the University on academic warning or probation are temporarily assigned to the Department of Guided Studies regardless of their choice of major subject. Specific policies and procedures which have bearing on these students are listed below:

1. They are required to enroll in the Department of Guided Studies regardless of their class standing at the time of admission.
2. They are encouraged to limit their course load for the first semester.
3. They are given special diagnostic tests to determine the nature and extent of their academic handicap.
4. They are required to take Guided Studies 101, Effective Study and Adjustment to College, during the first semester they attend the University,
5. Based on admission or diagnostic test results, they may be required to take specified strengthening classes in English, mathematics, social studies, biological sciences, physical sciences, or other areas of academic weakness.
6. Under the jurisdiction of the Department of Guided Studies they will be directed by specially selected advisers. These advisers have accepted the responsibility of meeting their advisees at frequent, regular intervals in an effort to help them work out the specific adjustment problems which arise during the first semester at the University.
7. Students who achieve a BYU cumulative grade-point average equal to or above the minimum standard for their class (1.75 for freshmen and 2.00 for all others), and who satisfactorily complete Guided Studies 101 and all other required strengthening classes may transfer to any college or department in the University. They must, however, meet the standards of admission set by the college and department of their choice.

Listed below are the classes currently offered by other departments of the University as remedial courses. Enrollment in these courses is not restricted to students on academic warning or probation. For detailed course listings see the appropriate departments.

English 10. Preparatory English
English 15. Remedial English for Juniors
English 101. English as a Second Langauge
Speech & Dram. Arts 58. Speech for Foreign Students
Speech & Dram. Arts 60. Remedial Speech
Mathematics 51. Plane Geometry

Mathematics 90. Algebra
Mathematics 97. Mathematical Review

For additional strengthening classes in various academic fields see also the course offerings in the General Curriculum Department, page 250.

Reading Laboratory. The Reading Laboratory is administered by the Department of Guided Studies. It was created to help students who need to build speed and comprehension in reading. Students are encouraged to avail themselves of the opportunity to learn how to read better and faster. The service is available without charge to all full-time students.

As indicated in the course description below, Guid. Stud. 21 is a noncredit course, and primary motivation for participation is self-improvement. Guid. Stud. 121 is a college-level class and carries one unit of credit.

On a fee basis, the Division of Continuing Education of the University offers a developmental reading course similar to Guid. Stud. 121. Students may avail themselves of this course by contacting the Division of Continuing Education.

Courses

15. Remedial Spelling. (0:2:0) F.S.
Improvement of ability to spell through the study of such techniques as spelling rules, prefixes, suffixes, roots, and use of the dictionary.

21. College Preparatory Reading. (0:1:1) F.S.Su. Herlin
Assists the high school graduate in strengthening fundamental skills of reading comprehension, vocabulary, and speed. A diagnostic study is made of individual reading deficiencies.

101. Effective Study and Adjustment to College. (1:3:0) F.S.Su. Home Study also. Reid
Course covers such areas as budgeting time, note-taking, reading, listening, use of library, how to take examinations, motivation, and concentration. Time is also spent in studying the application of psychological principles to typical problems of college students.

121. College Development Reading. (1:1:1) F.S.Su. Prerequisite: reading above 20th percentile on freshman reading norms or completion of Guid. Stud. 21. Herlin
Designed for the student who desires to increase his reading efficiency. Attention is given to speed and comprehension, and to vocabulary as it relates to rapid reading.

Health and Safety Education

Professors: Hartvigsen, Watters (chairman, 213 RB).

Associate Professors: Dezelsky, Robison, Shaw.

Assistant Professors: Burgener, Hirschi, Overstreet, Rhodes, Tuckett.

Instructors: James, Moncur, Rollins, Salazar, Thygerson.

Health Education Teaching Major. Students majoring in health education will take the following required courses: Health 121, 325, 381, 451, 460, 521, 552; also the following courses or equivalent from other departments: Food & Nutr. 115; Zool. 261 and 262; Psych. 321; and at least 7 hours from the following courses: Health 501, 530, 561; Micro. 311; Sociol. 403, 580; Anthrop. 105; P.E. 344; and Psych. 240. The student's program is to be established through the consultation of an adviser from the Department of Health and Safety Education.

Health Education Nonteaching Major. Those students who wish to pursue a public health profession or a higher degree in public health education at an accredited public health school should follow the suggested curriculum for the nonteaching major. The student's program is to be established through the consultation of an adviser from the Department of Health and Safety Education.

Health Education Dominant. Students may select a composite major with health education as a dominant field by completing the following required courses: Health 121, 325, 381, 460, 521; Zool. 261, 262; Food & Nutr. 115; and Psych. 321; and at least 7 hours selected from the following: Health 451, 501, 530, 552, 561; Psych. 240; and Sociol. 403. The student's program is to be established through the consultation of an adviser from the Department of Health and Safety Education.

Health Education Related. Students may select a composite major with health as a related field by completing the following required courses: Health 121, 381, 460, 521; and 7 hours selected from the following courses: Health 325, 451, 501, 552, 561; Psych. 321; Food & Nutr. 115. The student's program is to be established through the consultation of an adviser from the Department of Health and Safety Education.

Driver and Safety Education Minor. Students may minor in driver and safety education and qualify for state certification by completing the following required courses: Health 121, 325, 444, 445, 446; and 6 hours selected from the following courses: Health 401, 460, 521, 530; and Psych. 321. The driver education program is established by the State Certification Office and cannot be altered or have other courses substituted for the above courses unless it agrees with a reciprocal list from other state universities. The student's program is to be established through the consultation of an adviser from the Department of Health and Safety Education.

Health Education Minor. Students may minor in health education by taking the following required courses: Health 121, 381*, 460, 521; and 11 hours selected from the following courses: Health 325, 451, 501, 530, 552, 561; Food & Nutr. 115; Micro. 311; and Psych. 321, 240. The student's program is to be established through the consultation of an adviser from the Department of Health and Safety Education.

*If required in major program, the health education minor will be 17 semester hours.

Suggested Course Outline

Teaching Major

First Year

	F	S
Engl. 111, 112	3	3
Undergrad. relig.	2	2
P.E.	½	½
Health 130	2	
Hist. 170		3
Chem. 101		4
Micro. 121	3	
Sociol. 111	3	
Psych. 111		3
Health 121	2	
Dev. assy.	½	½
Total Hours	16	16

Second Year

	F	S
Zool. 105	3	
Undergrad. relig.	2	2
P.E.	½	½
Zool. 261		3
Zool. 262		2
Engl. 250	3	
Health 325		2
Hum. 101	3	
Geol. 101	2	
Food & Nutr. 115		2
Dev. assy.	½	½
Minor	4	4
Health electives		2
Total Hours	18	18

Third Year

	F	S
Health 381	3	
Psych. 321	3	
Health 460		2
Undergrad. relig.	2	2
Tchr. Ed. 301	2	
Tchr. Ed. 377		3
Health 521		2
Zool. 276	3	
Health 552		2
Dev. assy.	½	½
Minor	4	4
Elective		2
Total Hours	17½	17½

Fourth Year

	F	S
Tchr. Ed. 310	2	
Tchr. Ed. 415	2	
Tchr. Ed. 479	8	
Tchr. Ed. 403		4
Health 451		2
Minor		4
Health electives	2	3
Dev. assy.	½	½
Tchr. Ed. 406	2	
Electives		3
Total Hours	16½	16½

Suggested Course Outline

Nonteaching Major

First Year

	F	S
Engl. 111, 112	3	3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Health 130		2
Hist. 170		3
Chem. 101 or 105		4
Zool. 105	3	
Sociol. 111	3	
Psych. 111	3	
Dev. & forum assy.	1	1
Total Hours	15½	15½

Second Year

	F	S
Hum.		3
Micro. 121	3	
Undergrad. relig.	2	2
P.E.	½	½
Zool. 230		4
Speech & Dram. Arts 102	2	
Phys. sci.	2	
Zool. 261, 263	4	
Food & Nutr. 115		2
Health 121		2
Commun. 101	2	
Dev. & forum assy.	1	1
Commun. 211		3
Total Hours	16½	17½

Third Year

	F	S
Health 325		2
Micro. 331	5	
Micro. 501		5
Undergrad. relig.	2	2
Zool. 417	4	
Health 460		2
Dev. & forum assy.	1	1

Zool. 433		2
Minor	2	4
Health 451	2	
Total Hours	16	18

Fourth Year

	F	S
Micro. 531	4	
Sociol. 360	3	
Grad. Ed. 552	2	
Electives		3
Sociol. 580	3	
Health 551		2
Dev. & forum assy.	1	1
Minor	5	4
Sociol. 389		3
Botany 376		3
Total Hours	18	16

Courses

10. Beginning Drivers' Laboratory. (0:0:2) S.Su. Thygerson
Noncredit course. Driver education for beginning drivers. Used as a laboratory in conjunction with Health 445. No driving experience required. Fee $10.00.

☐**Food and Nutrition 115. Essentials of Nutrition.** (2:2:0)

121. First Aid and Safety Instruction. (2:2:0) F.S.Su. (m)
Principles and practices in emergency care and first-aid procedures for injuries. American Red Cross certificate given upon successful completion of course.

130. Personal Health. (2:2:0) F.S.Su. Home Study also.
Intended to develop adequate knowledge of health and illness and desirable health attitudes and practices. University health requirement. Required of all freshman students. May be taken either semester during freshman year.

131. Personal Health. (1:1:0) F.S.
Intended to develop adequate knowledge of health and illness and desirable health attitudes and practices. University health requirement. For students in the Honors Program only.

☐**Communications 211. News Writing.** (3:2:3) Prerequisite: Engl. 112.

☐**Zoology 230. Introductory Entomology.** (4:2:4) Prerequisite: see Zool. 105.

☐**Psychology 240. Personal and Social Adjustment.** (2:2:0)

☐**Zoology 261. Elementary Human Physiology.** **(3:3:0)**

☐**Zoology 262. Anatomy and Physiology Laboratory.** (2:0:4)

☐**Zoology 263. Elementary Physiology Laboratory.** (1:0:2) Prerequisite: completion of or concurrent registration in Zool. 261.

☐**Zoology 276. Heredity.** (3:3:0) Prerequisite: see Zool. 105.

☐**Microbiology 311. Sanitation and Public Health.** (2:2:0)

325. Safety Education. (2:2:0) F.S.Su. Home Study also. (m)
Thygerson, Watters
Comprehensive course covering all major areas of general safety including school, playground, home, farm, industrial, and traffic safety.

☐**Psychology 321. Psychology of Adolescence.** (3:3:0)

☐**Microbiology 331. Microbiology.** (5:3:6) Prerequisite: any organic chemistry course.

☐**Sociology 357. (Sociol.-Psych.) Group Relations and Leadership.** (3:3:0)

☐**Sociology 360. Introduction to the Field of Social Work.** (3:3:0) Prerequisite: Sociol. 111.

361. School Health for Elementary Teachers. (2:2:0) F.S.Su. Home Study also. Prerequisite: Health 130.

Fundamental principles of the school health program and their application in elementary teaching. Designed for those preparing to teach in the elementary school.

362. School Health for Secondary Teachers. (2:2:0) F.S.Su. Home Study also. Prerequisite: Health 130.

Fundamental principles of the school health program and their application in secondary teaching. Designed for those preparing to teach in secondary school.

☐**Botany 376. Genetics.** (3:3:0) Prerequisite: Bot. 101 or Zool. 105.

381. Program Planning in Secondary Health Education. (3:3:0) F.S. (m) Dezelsky, Watters

Emphasis on the role of the health specialist in integrated and concentrated programs; a study of functions, program planning, and resource materials related to school health education.

☐**Sociology 389. Social Aspects of Mental Health.** (3:3:0)

401. Driver and Safety Education Workshop. (1-2:30:18) Su. Prerequisite: certified driver education instructor or consent of instructor. Thygerson

Intended primarily for extension and/or Summer School. Involves a presentation of current driver education and safety problems. A review of latest research and methods of instruction in driver and safety education.

402. Workshop in Safety in Outdoor Recreation. (2:1:3) Su.

Consideration of outdoor recreation problems, programs and leadership skills.

☐**Zoology 417. Parasitology.** (4:3:3) Prerequisite: Zool. 105.

☐**Zoology 433. Medical Entomology.** (2:1:4) Prerequisite: Zool. 230.

☐**Psychology 440. Abnormal Psychology.** (3:3:2)

444. Driver Education Planning. (2:2:0) F.Su. (m) Recommended: Health 325. Thygerson

Organization, administration, and supervision of high school driver education programs.

445. Driver and Traffic Education. (4:2:4) S.Su. (m) Recommended: Health 325, 444. Thygerson

Fee $10.00. Knowledge, attitudes, and skills related to driving. Behind-the-wheel instruction, fitness of drivers, cost and care of car, traffic codes and nature's laws, highways and freeways, and adverse conditions of driving.

446. Driver Traffic Simulators. (1:1:1) S.Su. Prerequisite: Health 444.

Methodology of simulation instruction in driver and traffic safety education with emphasis on operation and maintenance of traffic simulators.

451. School Health and Community Relations. (2:2:0) S. Recommended: Health 361 or 362. Burgener

Designed to increase understanding of the health relationships between the school and the community, including principles of community cooperation, disease prevention and control, and general methods of health promotion.

460. Alcohol and Narcotic Education. (2:2:0) F.S. Rhodes

The nature and effects of alcohol and narcotics on the human organism. The alcohol and narcotics problem will be considered from a physiological, psychological, and sociological viewpoint as well as the educational and legal aspects related to individual conduct and relationships. The development of a correlated attack on this national health problem will be emphasized.

☐**Zoology 465. Animal Physiology.** (4:4:3)

479. Secondary Student Teaching. (8:8:0) F.S. Watters

501. Health Education Workshop. (1-2:Arr.:0) F.S.Su. Watters
Intended primarily for extension credit and/or Summer School. Involves a presentation of health education problems followed by discussions. Conducted on a workshop basis.

☐**Microbiology 501. Pathogenic Microbiology.** (5:3:6) Prerequisite: Micro. 331 or consent of instructor.

521. Evaluation and Selection of Health and Safety Material. (2:2:0) F.S. (m) Prerequisite: Health 381. Shaw
Pamphlets, brochures, films, textbooks, and other school health resource materials are evaluated and selected for present and future use.

530. First-Aid Instructorship. (2:2:1) F. (m) Rollins
Designed to qualify instructors in Red Cross first aid, so that they may conduct classes to qualify individuals for standard and advanced Red Cross cards.

☐**Microbiology 531. Virology.** (4:2:6) Prerequisite: Micro. 501.
☐**Graduate Education 550. Introduction to Guidance Services.** (2:2:0)

551. Field Work in Community Health. (2:Arr.:Arr.) S.Su. Recommended: Health 451.
Designed to broaden understanding of community health agencies, their roles, programs, and relationships. This is accomplished by field introductions to the various official and voluntary health agencies, followed by the selection of agencies in which to do field work during the semester.

552. School Health Organization and Services. (2:2:0) S. (m) Shaw
Considers desirable school health services, functions and relationships to public education and educational law. Coordinates school health services with community programs.

☐**Graduate Education 552. Statistical Methods.** (2:2:0)

☐**Graduate Education 560. Educational Tests and Measurements.** (3:3:0)

561. Health of the Body Systems. (3:3:0) S. (m)
Advanced course in personal health dealing with the major factors in health and disease as they involve the several body systems.

☐**Sociology 580. Medical Sociology.** (3:3:0)

☐**Physical Education 635. Measurement and Evaluation of Physical and Health Education.** (3:3:0)

☐**Graduate Education 646. Counseling Theory and Practice.** (3:3:0)

660. Stimulants and Depressants. (2:2:0) Prerequisite: Health 561 or equivalent.
The physiology and biological chemistry of stimulants and depressants.

☐**Zoology 662. Advanced Physiology.** (2:1:2)

☐**Physical Education 662. Administration and Public Relations.** (3:3:0)

691. Graduate Seminar. (0:Arr.:Arr.) Watters
A seminar for graduate students in health and safety education. Reviews course work, testing procedures, professional agencies, and current trends in health education. All graduate students in health and safety education must register each semester.

692. Research Methods in Health and Safety Education. (3:3:0) Arr.

693. Research in Health Science. (2:1:2) F.S.
Independent and/or directed research in problems associated with the health sciences. This course gives credit to those graduate students involved in directed or independent research from grant-in-aid, fellowship, or contract grant support.

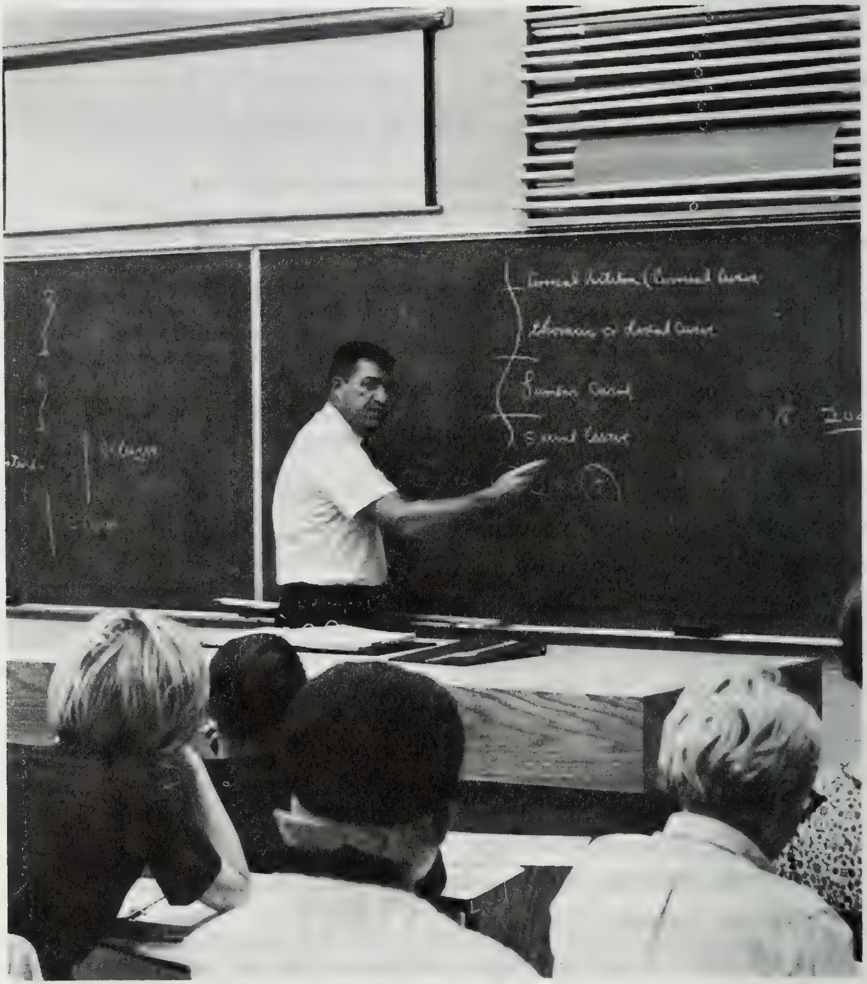
694. Seminar in Readings. (2:2:0) F.S.Su.

696. Seminar in Problems. (1:1:0) F.S.Su.

698. Field Project. (1-4:Arr.:Arr) F.S.Su.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.)

☐**Graduate Education 709. Philosophy of Program Planning.** (2:2:0)



Students in health education class

History

Professors: Addy, Campbell, Hafen, Hyer, Jensen (chairman, 250 M), Poll, Swensen.

Associate Professors: Allen, Bushman, Larson, Marlow, Warner.

Assistant Professors: Alexander, Britsch, Cardon, Hill, Schmutz, Tobler, Wood.

Requirements for a Major

A history major requires the completion of 31 hours of work in this field. Courses required are Hist. 100, 110, 111, 120, and 121, normally taken in the freshman and sophomore years; Hist. 388, junior year; Hist. 400, senior year. Majors who seek certification in secondary education are also required to take Hist. 366. The remaining elective hours should be selected in consultation with the department adviser. Not more than 13 hours of lower-division work in history may be applied toward the major. No "D" credit will be accepted in upper-division history classes.

A student deciding to major in history should immediately consult the chairman of the department, who will assist in the selection of a minor field.

The requirements for a teaching major in history and for the composite major in social sciences which includes history are found in the College of Education Section.

Suggestions for a Minor

A history minor requires 17 hours of course work **not** including Hist. 170. At least 6 hours must be chosen from Hist. 110, 111, 120, and 121.

For the requirements for a teaching minor in history, see College of Education.

American History and Government Requirement

For details concerning the American history and government requirement, see "Requirements for Graduation" in the Student Academic Services Section of this catalog.

Courses

100. The Study of History. (1:1:0) F.S. (m)
Introduction to the nature and functions of history, with emphasis on developing the skills and resources needed in historical study. Required of all history majors. To be taken in conjunction with Hist. 110 or 120.

110. World Civilization I. (3:3:0) F.S.Su. Home Study also. (G-SS m)
Beginning of major world civilizations and their development to approximately 1500 A.D., with emphasis on Europe.

111. World Civilization II. (3:3:0) F.S.Su. Home Study also. (G-SS m)
Development of major world civilization since 1500 A.D., with emphasis on Europe.

120. The United States to 1865. (3:3:0) F.S.Su. Home Study also. (G-SS m)
Discovery and colonization, the American Revolution, establishment of the Constitution, foreign affairs, westward expansion, sectionalism, and the Civil War.

121. **The United States since 1865.** (3:3:0) F.S.Su. Home Study also. (G-SS m)
Civil War and reconstruction, industrialization and urbanization, American imperialism, progressivism, world wars, New Deal, and current problems.

170. **The American Heritage.** (3:3:0) F.S.Su. Home Study also.
Growth of the United States under the Constitution, with emphasis on political ideas and institutions and the adaptation of the governmental system to America's role as an industrial and world power.

300. **Early Oriental History.** (2:2:0) F. (G-SS m) Meservy
Ancient Egypt, Babylonia, Assyria, Persia and Palestine.

302. **Near Eastern History.** (3:3:0) F. (m)
Survey of the development of Near Eastern or Islamic civilization with emphasis on the period of the Caliphate and the Ottoman Empire.

304. **Greek History and Civilization.** (3:3:0) F. (G-SS m) Swensen
Survey of Hellenic and Hellenistic developments from early beginnings to the Roman conquest.

307. **Roman History and Civilization.** (3:3:0) S. (m) Anderson, Swensen
Survey of the rise of the Roman Republic, the transition to empire and the decline and fall of the Western Roman Empire.

310. **The Early Middle Ages.** (3:3:0) F. (G-SS m) Schmutz
Surveys the development of medieval history and civilization from the fall of Rome to the Romanesque revival of the 10th and 11th centuries. (Both 310 and 311 cannot be taken for general education credit.)

311. **The Late Middle Ages.** (3:3:0) S. (G-SS m) Schmutz
Surveys the development of medieval history and civilization from the 11th century to the close of the Middle Ages. (Both 310 and 311 cannot be taken for general education credit.)

312. **The Renaissance: Age of Transition.** (3:3:0) F. (G-SS m) Jensen
The literary and artistic reawakening of Italy, the rise of commercial capitalism, beginning of the European states system, and the overseas expansion of Europe.

313. **The Reformation: Age of Turmoil.** (3:3:0) S. (G-SS m) Jensen
The political, economic, and cultural effects of the great sixteenth-century religious upheaval, with its ensuing ideological struggles to mid-seventeenth century.

320. **Eighteenth-Century Europe.** (2:2:0) F. (m) (Offered 1968-69 and alternate years) Addy
Survey of developments in Europe from approximately 1688 to the beginning of the French Revolution, including developments of political thought, science, and philosophy in the Enlightenment.

322. **Nineteenth-Century Europe.** (2:2:0) F. (m) (Offered 1969-70 and alternate years) Cardon
Political, economic, social, and intellectual history of Europe from 1815-1914.

323. **Europe in the Twentieth Century.** (3:3:0) S. Home Study also. (G-SS m) Cardon
Emphasis on European international affairs and on the political and economic history of the major European countries (including Russia) from World War I to the present.

326. **Western Civilization I.** (1-3:Arr.:Arr.) F.S.Su. (m)
Limited to participants in the BYU Travel Study program.

327. **Western Civilization II.** (1-3:Arr.:Arr.) F.S.Su. (m)
Limited to participants in the BYU Travel Study program.

329. The Austrian Empire and Eastern Europe. (3:3:0) S. (m) (Offered 1968-69 and alternate years) Tobler
A survey of the historical development and external relations of the countries of East Central Europe (Austria, Hungary, Czechoslovakia, Poland) since 1600.

330. Tsarist Russia. (3:3:0) F. (m) Tobler
Survey of Russian history from early beginnings to the Russian Revolution.

331. The USSR and Eastern Europe. (3:3:0) S. Home Study also. (m) Mabey
Survey of modern Russia with special emphasis on the rise of communism and the development of the USSR.

332. France. (3:3:0) S. Home Study also. (m) Cardon, Jensen
Focuses on the important French contributions to modern thought, culture and institutions during the old regime and especially since the French Revolution.

333. Modern Germany. (3:3:0) F. Home Study also. (m) Tobler
The political, military, economic, and cultural developments of Germany during the nineteenth and twentieth centuries, with emphasis on the problem of German relationship to Western society.

334. Spain. (3:3:0) F. (m) (Offered 1969-70 and alternate years) Addy
Political, social and economic factors in Spanish history. Emphasis on the period since 1492.

335. England. (3:3:0) F.S.Su. Home Study also. (G-SS m) Cardon, Tobler
General English history from Roman era to the present. Development of English legal and political institutions, the Empire-Commonwealth, industrial revolution, recent problems and trends.

340. Premodern Asia. (3:3:0) F. (G-SS m) Britsch
Beginning of the traditional civilizations of China, India, and Japan and their development until the coming of the West.

341. Modern Asia. (3:3:0) S. (G-SS m) Britsch
Impact of the West on Asian societies and their response. Main emphasis on the change of tradition, imperialism, nationalism, and communism in China, Japan, and India.

343. Formative Period of Chinese Civilization. (3:3:0) F. (m) Hyer
Development of China to recent times, with emphasis on social and cultural factors.

344. Modern China. (3:3:0) S. Home Study also. (m) Hyer
Emphasis on the development of China in the twentieth century, including the fall of the Manchu Dynasty and the rise of the Chinese Communists.

345. Formative Period of Japanese Civilization. (3:3:0) F. (m) Britsch
Development of Japan to 1868, with emphasis on social, religious, and cultural aspects.

346. Modern Japan. (3:3:0) S. (m) Hyer
The development of Japan since 1868, with emphasis on the impact of the West upon political, social, economic, and cultural developments.

347. India. (3:3:0) S. (m) Britsch
Survey of the history of India including the effects of Hinduism and Islam on the political, economic and cultural development.

349. Central Asia. (3:3:0) S. (m) Hyer
Survey of central Asia, including Chinese and Russian border areas. Emphasis on the nomadic empires, especially the Turkish and Mongol empires.

351. History of Latin America I. (3:3:0) F. Home Study also. (G-SS m) Addy
Colonial period, geography, pre-Columbian civilization, conquest, and institutional development from 1492 to 1800.

352. History of Latin America II. (3:3:0) S. Home Study also. (G-SS m) Addy
National period. The wars of independence, evolution of modern republics, inter-American relations, and institutional development from 1800 to the present.

☐**Political Science 357. Government and History of Canada.** (3:3:0)

360. The American Frontier. (2:2:0) F.S.Su. Home Study also. (m)
Allen, Warner
Highlights and significance of the westward movement in American history (not for history majors).

362. American Westward Movement to 1825. (2:2:0) F. (m) Warner
Emphasis on the early colonization and westward movement east of the Mississippi.

363. American Westward Movement after 1825. (2:2:0) S. (m) Allen, Hafen
Emphasis on the fur trade and colonization in the trans-Mississippi West.

364. The Indian in American History. (2:2:0) F.S.Su. (m) Warner
Survey of the major developments in the history of the leading Indian tribes including their migrations and their relationship to the United States government.

365. California. (2:2:0) S. Home Study also. (m) Warner
Survey of the Spanish, Mexican and American periods in California history with emphasis on developments since the gold rush.

366. Utah. (2:2:0) F.S.Su. Home Study also. (m)
Alexander, Campbell, Larson, Poll, Wood
Emphasis on the Utah territorial period and the Mormon contribution. Not open to freshmen or sophomores.

370. Colonial America. (3:3:0) F. (m) Backman, Bushman
The foundation of colonies in America, Anglo-American conflict and the Revolution, the Confederation and the Constitution.

372. Founding of the American Republic. (3:3:0) S. (m) Bushman
Political, social and economic factors that led to American Revolution, and the establishment of the Republic, first under the Articles of Confederation, then under the Constitution.

375. The American Republic, 1800-1850. (3:3:0) S. (m) Campbell, Hill
Political, social, economic, and diplomatic development and westward expansion during the Jeffersonian, and Jacksonian Eras.

377. Civil War and Reconstruction. (2:2:0) F. (m) Poll
The Civil War as the testing of the American political system and as a problem in historical causation.

378. The Emergence of Modern America. (3:3:0) F. (m) Alexander, Marlow
The transition of the United States from a rural and agrarian to an urban and industrial society, and the rise of the United States to world power.

379. Contemporary United States History. (3:3:0) S. (G-SS m) Marlow
An examination of the major domestic and foreign problems of the United States in four crucial decades, with special emphasis on their relevance for contemporary society.

381. U.S. Intellectual and Social History to 1865. (3:3:0) F. (m)
Bushman, Hill
Life and thought in the United States to the Civil War.

382. U.S. Intellectual and Social History since 1865. (3:3:0) S. (m) Hill, Marlow
Life and thought in the United States from the Civil War to the present.

384. U.S. Diplomatic History. (3:3:0) F. (m) Melville

385. American Constitutional History. (3:3:0) S. (m) Melville

388. Historiography. (3:3:0) F.S.Su. (m) Purdy, Schmutz, Swensen
Fundamental problems and types of historical analysis and interpretation, philosophies of history, and work of outstanding historians.

400. Historical Research and Writing. (3:3:0) F.S.Su. (m) Prerequisite: Hist. 388. Staff
Sources, materials and methods of historical research and writing, including critical analysis of research project. Required of all history majors in the senior year.

410. Medieval Institutions. (2:2:0) S. (m) (Offered 1968-69 and alternate years) Schmutz
Examines the development and structure of important medieval and secular institutions, including the papacy, feudal and royal administrations, and communal and representative bodies.

453. Mexico and the Caribbean. (3:3:0) F. (Offered 1968-69 and alternate years) (m) Addy, Warner
Social, economic and political developments in Mexico and in the Latin-American states of the Caribbean Sea area.

454. Argentina, Brazil and Chile. (3:3:0) S. (Offered 1969-70 and alternate years) (m) Addy
Social, economic and political development of these principal Latin-American states since 1820.

☐**Economics 471. European Economic History.** (3:3:0)

☐**Economics 474. American Economic Development.** (3:3:0)

481. History of Science I. (3:3:0) F. (m) Nielson
The historical development of scientific thought and achievement, and its effect upon social and cultural life from Greek times to the Renaissance.

482. History of Science II. (3:3:0) S. (m) Nielson
The impact of scientific thought and achievement upon the development of modern society since the intellectual revolution of the 17th century.

497. Honors Readings. (1-2:0:Arr.) F.S.Su. Staff

498. Directed Readings. (1-2:0:Arr.) F.S.Su. Staff

606. Greek Thought. (2:2:0) S. (Offered 1969-70 and alternate years) Swensen
Study of Greek intellectual and philosophical thought, and its relationship to Greek institutions.

607. Greek and Roman Historians. (2:2:0) F. (Offered 1969-70 and alternate years) Swensen
A critical study and reading of the works of these ancient historians, an evaluation of their historical methodology and interpretation, and their relations to their historical background.

610. Early Medieval Times. (2:2:0) F. Schmutz
Study of problems and interpretations in the history of the early Middle Ages, from the fall of Rome to the mid-11th century.

611. Later Medieval Times. (2:2:0) S. Schmutz
Study of problems and interpretations in the history of the late Middle Ages from the mid-11th century to the Renaissance.

612. Medieval Thought and Culture. (3:3:0) S. (Offered 1968-69 and alternate years) Swensen

Study of the basic medieval achievements in philosophy, science, theology, literature, and education.

618. Problems in Early Modern Europe. (3:3:0) F. (Offered 1968-69 and alternate years) Jensen

Extensive reading, analysis and interpretation of selected historical problems of the sixteenth, seventeenth, and eighteenth centuries.

621. Problems in Modern Europe. (3:3:0) S. (Offered 1968-69 and alternate years) Cardon

Extensive reading, analysis, and interpretation of selected historical problems of the nineteenth and twentieth centuries.

625. European Diplomatic History since 1815. (2:2:0) F. Cardon

Interprets "diplomacy" broadly. Emphasis on the relationship between European diplomatic history and the domestic history of the major world powers, including the U.S. and Russia.

628. European Thought and Culture to 1800. (3:3:0) F. (Offered 1969-70 and alternate years) Jensen

Intellectual and cultural movements of the 16th-18th centuries. Emphasis is on humanism, Reformation ideologies, the rise of scientific thought, Rationalism and the Enlightenment.

629. European Thought and Culture since 1800. (3:3:0) S. (Offered 1969-70 and alternate years) Tobler

The most influential intellectual and cultural movements of the 19th and 20th centuries, their forms of expression, and their impact on the contemporary world.

633. Intellectual History of Germany. (2:2:0) F. Tobler

A study and analysis of the ideas which have had the most powerful influence upon the historical development of Germany since the Reformation.

640. The Far East. (2:2:0) S. Hyer

Extensive reading, analysis and interpretation of selected problems of Asian development with emphasis on China, Japan, and India.

648. Culture of Asia. (2:2:0) F. Hyer

Reading in depth and discussion of problems in Asian culture.

650. Latin America. (2:2:0) S. (Offered 1968-69 and alternate years) Addy

An advanced study of the generalized historical development of Latin America—colonial and national periods considered.

656. Southwestern United States. (2:2:0) S. Hafen, Warner

Selected problems in the area of Spanish colonization and United States fur trappers.

665. The Rocky Mountain West. (2:2:0) F. (Offered 1969-70 and alternate years) Allen

Political and economic development of Arizona, Colorado, Idaho, Montana, Nevada, Wyoming, and Utah. Emphasis on sources and problems.

666. Problems in Utah History. (2:2:0) F. Campbell, Wood

Reading in depth in the documents and discussion of interpretations of important events in Utah history.

667. Northwestern United States. (2:2:0) S. Allen, Hafen

History of the Oregon Territory as it developed into the states of Washington, Oregon, and Idaho.

670. Problems in Colonial America. (3:3:0) F. (Offered 1969-70 and alternate years) Backman, Bushman

672. Problems in the Founding of the American Republic. (3:3:0) S. (Offered 1969-70 and alternate years) Bushman
Reading in depth and discussion of major problems in American history between 1763 and 1800.

675. Problems in the Early American Republic (1800-1848). (3:3:0) S. Campbell

677. Problems in Civil War and Reconstruction. (3:3:0) S. (Offered 1969-70 and alternate years) Poll

678. Problems in the Emergence of Modern America (1880-1920). (3:3:0) F. (Offered 1969-70 and alternate years) Alexander

679. Problems in Contemporary American History. (3:3:0) S. Marlow, Poll

685. Historical Geography of United States. (2:2:0) S. Gray
The bearing of climate, resources, and other geographical factors upon American development.

690. Special Studies in History. (2:2:0) F.S. Staff
Advanced research and analysis of important historical problems and movements. (By permission of instructor)

☐**Economics 691. Seminar in Economic History.** (2:2:0)

691. Seminar in Latin-American History. (3:3:0) F. (Offered 1969-70 and alternate years) Addy

692. Seminar in Asian History. (3:3:0) S. (Offered 1968-69 and alternate years) Hyer

693A,B,C,D. Seminar in European History to **1800.** (3:3:0 ea.) F.S. Jensen

694A,B,C,D. Seminar in European History since 1800. (3:3:0 ea.) F.S. Cardon, Tobler

695A,B,C,D. Seminar in Western American History. (3:3:0 ea.) F.S.Su. Staff

696A,B,C,D. Seminar in United States History. (3:3:0 ea.) F.S.Su. Staff

697. Seminar in Utah History. (3:3:0) F.S. Staff

698. Special Readings in History. (1-2:0:Arr.) F.S.Su. Staff

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

798. Special Readings in History. (1-2:0:Arr.) F.S.Su. Staff

799. Dissertation for Doctor's Degree. (Arr.) F.S.Su.

Home Economics Education

Assistant Professor: V. Poulson (chairman, 2230-A SFLC).

Instructors: Bird, Calder, Thompson, Young.

The Department of Home Economics Education offers a composite major (no minor necessary) in home economics leading toward a B.S. degree and vocational certification from the State Department of Public Instruction to teach home economics in the junior and senior high schools.

The major purpose of home economics education is to prepare students to adapt knowledge in all areas of home economics to teaching youth in secondary schools. Study in this department also has value to the student by preparing her with a general background of knowledge that can be applied to other professional aspects of home economics. The graduate gains personally as she develops toward greater personal fulfillment and enrichment in family living.

Students selecting this major should realize that the curriculum includes a broad program in all areas of home economics preceded by a fairly intensive background in the physical and biological sciences. Due to the nature of the course work required and the time element involved, it is imperative that students seek advisement from the Home Economics Education Department at the earliest possible date.

For admission to the teacher education program, students are required to meet certain criteria: (1) Maintain a 2.25 grade-point average. (2) Pass a grammar test administered by the Teacher Certification Office.

1. **General Education Requirements—57-59 hours**

Freshman Engl.—4-6 hours

Biol. sci.—6 hours
    Micro. 121—3 hours
    Zool. 105—3 hours

Hum. and aesthetics—6 hours
    Art 101 or 110—2 hours
    Electives—4 hours (Speech and Dram. Arts 102 and 121 are recommended.)

Health 130—2 hours

P.E.—2 hours

Undergrad. relig.—16 hours

Soc. sci.—5 hours (CDFR credit may be used to complete two credit hours of social science requirements.)
    Psych. 111—3 hours

Hist. 170—3 hours

Phys. sci.—9 credit hours (University requirement—6 hours. Three hours of chemistry will apply to mathematics, statistics and logic requirements.)
    Chem. 101—4 credit hours
    Chem. 151—5 credit hours

Revised requirement (math., science, statistics and logic)—6 credit hours

2. College of Family Living Required Courses—66-67 credit hours

Home Ec. Ed. 101, 375, 377, 489, 479—17 credit hours

CDFR 210, 322, 360, 361—12 credit hours

Nursing 425—2 credit hours

*Food and Nutrition 255, 264, 265, 340—12 credit hours

Alternate program: 115, 116, 264, 265, 310 or 370, 340—12 credit hours

*Students who have had no high school homemaking or experience with food should elect 110.

Housing & Home Management 240, 350, 351, 335, 370—12 credit hours

Clothing & Textiles 110, 165, 260, elective 2-3 credit hours (355 recommended)—11-12 credit hours

3. Teacher Education Courses—10 credit hours

Teacher Education 301—2 credit hours
Teacher Education 310—2 credit hours
Health Education 362—2 credit hours
Teacher Education 402—2 credit hours
Teacher Education 415—2 credit hours

Suggested Schedules for Home Economics Education Majors

Freshman Year

	F	S
Undergrad. relig.	2	2
Engl.	3	3
For. & Dev. Assy. 101 & 102	1	1
P.E.	½	½
Psych. 111	3	
Clo. & Text. 110		2
Health 130	2	
Zool. 105	3	
Chem. 101		4
Art 101 or 110	2	
Hum.		2
Speech & Dram. Arts 102 or 121		2-3
	16½	16½-17½

Junior Year

	F	S
Undergrad. relig.	2	2
Tchr. Ed. 310		2
P.E.		½
Clo. & Text. elective (355 recommended)		2-3
Tchr. Ed. 301	2	
CDFR 322		3
Hous. Home Mgt. 350	2	
Hous. Home Mgt. 335	3	
Hous. Home Mgt. 351		2
CDFR 360	3	
Home Ec. Ed. 375		3
Food & Nutr. 264, 265	5	
Food & Nutr. 340		2
	17	16½-17½

Sophomore Year

	F	S
Dev. 201 & 202	½	½
Undergrad. relig.	2	2
Chem. 151	5	
P.E.	½	½
Home Ec. Ed. 101	1	
CDFR 210	3	
Micro. 121		3
Clo. & Text. 165		4
Food & Nutr. 255		5
Hous. Home Mgt. 240	3	
Clo. & Text. 260		3
Elective	2	
	17	17½

Senior Year (professional year)*

**Undergrad. relig.	2
†Nursing 425	2
†Home Ec. Ed. 377	3
CDFR 361	3
†Hous. Home Mgt. 370	2
†Tchr. Ed. 479	8
†Tchr. Ed. 402	2
†Tchr. Ed. 415	2
**History 170	3
Phys. sci.	3
†Health & Safety Ed. 362	2
Home Ec. Ed. 489	2
	34

*The student must work out her schedule around student teaching. See adviser for details.

†Block plan

**Available on block plan

Courses

101. Concepts of Home Economics Education. (1:1:0) F.S.
Basic concepts from science, art, and philosophy essential to an understanding of the composite home economics education curriculum as preparation is begun for teaching in secondary schools.

375. Curriculum Development in Home Economics Education. (3:3:0) F.S. Prerequisite: Home Ec. Ed. 101, Tchr. Ed. 301.
Curriculum development for home economics education in secondary schools, including scope and sequence of learning experiences and evaluation based on objectives and concept formation.

377. Secondary Teaching Procedures. (3:3:Arr.) F.S. Prerequisite: Home Ec. Ed. 375.
See Tchr. Ed. 377.

479. Secondary Student Teaching. (8:1:Arr.) F.S.
Supervised teaching carried on in an approved home economics education department of a public school. See Tchr. Ed. 479.

489. Extended Programs in Vocational Home Economics Education. (2:1:2) F.S. Prerequisite: Home Ec. Ed. 377.
Experiences which will prepare vocational home economics education teachers for extended programs as follows: youth organizations, adult education, wage-related youth and adult programs, and technical methods (micro-teaching, programmed learning, etc.)

521. Workshop in Home Economics Education. (2:2 wks. 8 hrs./day) Su. Prerequisite: consent of instructor.
Intensive study of application of principles and theory in home economics education.

530. Home Economics Education for Adults. (2:2:0) Su. Prerequisite: consent of instructor. V. Poulson
The principles, practices, programs, materials, and resources for teaching home economics education to adults.

532. Evaluation in the Teaching of Home Economics Education. (2:2:0) Su. Prerequisite: Tchr. Ed. 479 and consent of instructor. V. Poulson
Analysis of evaluation techniques and construction of workable evaluation devices unique to the teaching of home economics education.

630. Methods and Curriculum in Home Economics Education. (3:3:0) Su. Prerequisite: minimum of one year teaching experience. V. Poulson
Intensive study of methods of teaching and curriculum development for home economics education programs in the secondary schools.

Housing and Home Management

Associate Professor:	Poulson (chairman, 2246 SFLC).
Assistant Professor:	Bastian.
Instructors:	Chamberlain, Lewis, Sevy, Wright.
Special Instructors:	Allen, Viehweg, Vincent.

The Housing and Home Management Department is concerned with the achievement of individual and family goals through the thoughtful use of human resources—knowledge, skills, attitudes; and nonhuman resources—time, money, property and community facilities.

Professional interests are served through two areas of emphasis with an option for a major in either home management or housing.

Courses of study in home management are designed to help the student in the management and decision-making process whereby optimum personal and family development may be achieved. Courses of study in housing are designed to help in planning, furnishing, and decorating the home. Students receive a broad liberal education in both majors.

The choice of options should be made as early as possible if requirements are to be completed during eight semesters.

Students electing a major in home management prepare for employment in home economics extension service; as demonstrators for utility and appliance companies; and for other positions for which a background in home management is desired. Valuable preparation may also be gained for graduate study leading to college teaching, research, and consulting in family finance.

Students electing a major in housing prepare for an apprenticeship as home planning and decoration consultants or for such a position as a buyer of home furnishings. They, too, gain valuable preparation for graduate study leading to college teaching.

Those interested in further information about employment opportunities and curriculum requirements should consult the department chairman or their appointed adviser.

Recommended minors for home management include economics, sociology, food and nutrition, clothing and textiles, journalism, child development, and others. Recommended minors for housing include art, business management, journalism, and others.

HOME MANAGEMENT MAJOR

Three options included in the management major are aimed at contributing to professional opportunities. Basic core classes required for Options One and Two include Hous. Home Mgt. 335, 350, 351, 370, 460, 480, 485, 520 and 590.

Option One

The student interested in a profession with an extension service of the land-grant colleges is required to take in addition to the basic core classes Sociol. 111 and 357, Econ. 101, Hous. Home Mgt. 220 and 240, Food & Nutr. 255, 264, 265 and 340, Clo. & Text. 110, 165 and 260, Tchr. Ed. 301A and CDFR 361. Specific courses in a department in this option may count toward a minor in that department.

Option Two

The student interested in a profession as a demonstrator for utility and appliance companies is required to take in addition to the basic core classes Sociol. 111, Econ. 101, Hous. Home Mgt. 220 and 240, Food & Nutr. 255, 264, 265 and 340, Clo. & Text. 260, Tchr. Ed. 301A, Speech & Dram. Arts 102, Commun. 101 and 211, and Bus. Mgt. 347. At least one course from CDFR is required to fulfill College of Family Living requirements. Specific courses in a department in this option may count toward a minor in that department.

Option Three

The student interested in a profession as a financial consultant, social worker or in going on to do graduate work is required to take basic core classes Hous. Home Mgt. 201, 335, 350, 351, 370, 460, 520 and 590.

In addition to basic core classes, the student is required to take Anthrop. 101 and 105, Econ. 101, Bus. Mgt. 247, Sociol. 111 or Psych. 111, Sociol. 350 and 403, Hous. Home Mgt. 220 and 240, Clo. & Text., one course, Food & Nutr., one course, CDFR 312, 360, and 361. Specific courses in an area in this option may count toward a minor in that department.

HOUSING MAJOR

For a major in housing and home management with emphasis on housing, the basic core classes include Hous. Home Mgt. 201, 220, 240, 320, 330, 340, 345, 440, 485 and 580E.

In addition to the basic core classes, the student is required to take Art 120, 121, 233 and 301, Econ. 101 and Bus. Mgt. 247 (Hous. Home Mgt. 460 may be taken in place of Bus. Mgt. 247), Clo. & Text. 260 and 430, and Hous. Home Mgt. 350. At least one course from Food & Nutr. and CDFR is required to fulfill College of Family Living requirements.

It is recommended that majors in housing and home management, with emphasis on housing, take French to fulfill the foreign language and mathematics requirement since many of the terms in reference materials are in French.

Courses

170. Home Management for Effective Living. (2:2:0) F.S. Lewis
A study of goals sought, resources available, and managerial behavior in the home. Decision and choice as aspects of adjustment to changed situations. Course is not for College of Family Living majors.

201. Family Housing. (3:3:0) F.S.Su. (m) Viehweg
Consumer orientation to housing, including history and development of styles, forms, and materials, with an analysis of economics, site selection and planning of the contemporary house.

220. Home Furnishings. (3:2:2) F.S.Su. (m) Wright
A study of the properties of materials and furnishings used in contemporary homes. Laboratory experience.

221. Weaving. (2:1:3) F.S. Lind
Creative design applied to woven fabrics with experience in weaving methods. Survey of handwoven fabrics in various world cultures.

240. Interior Home Environment I. (3:3:0) F.S.Su. (m) Allen, Sevy
Principles of design and color applied to the interior and furnishings of the home.

320. Textile Design in Home Furnishings. (3:0:6) F.S. Prerequisite: Art. 120. Wright
Creative design in block print, stencil, stitchery, batik and silk screen for application to home furnishings. Comparative analysis of designers and processes.

330. House Planning. (3:3:0) F.S.Su. (m) Viehweg

Classroom experience in design, layout and organization of dwelling spaces keyed to contemporary techniques and materials.

335. Household Equipment. (3:2:2) F.S.Su. (m) Chamberlain, Vincent

Principles underlying selection, construction, operation and care of household equipment. Laboratory experience in testing performance and comparing costs.

340. Interior Home Environment II. (3:3:0) F.S.Su. (m) Prerequisites: Hous. Home Mgt. 220, 240, 330; Art 120, 121. Allen

Application of the principles of design and color in home decoration; analysis of historical and contemporary interiors.

345. Interior Home Environment III. (3:3:0) F.S.Su. Prerequisite: Hous. Home Mgt. 340. Sevy

Application of the principles of design and color in home decoration with emphasis on specific areas.

350. Home Management. (2:2:0) F.S.Su. (m) Prerequisite: Sociol. 111 or Psych. 111. Bastian, Chamberlain

Open to men and women. Management in its relation to functions of the family in society. Decision-making in the management of human and nonhuman resources to attain family goals.

351. Family Finance. (2:2:0) F.S.Su. (m) Chamberlain, Poulson

Open to men and women. Economic problems of direct concern to the family today. Types and adequacy of income and its apportionment in terms of family needs and interests.

370. Residence Experience in Home Management. (2:2:10) F.S.Su. (m) Prerequisites: Hous. Home Mgt. 350, 351, 335; Food & Nutr. 340. Bastian

Married students' section taught first block of Spring Semester and every third summer beginning with 1970.

Residence for one-half semester with a family-size group. Experience in decision-making. homemaking and group relations; arranged individual and group conferences. Advance reservations required. Laboratory fee.

440. Interior Home Environment IV. (3:2:2) F.S.Su. (m) Prerequisite: Hous. Home Mgt. 345. Sevy

Integration of functional and aesthetic problems in the presentation of complete interiors.

460. Consumers in the Market. (2:2:0) F.S. (m) Prerequisites: Econ. 101, Psych. 111, or Sociol. 111. Chamberlain, Poulson

Consumers' role in the marketing system; consumer decision-making with respect to market goods and services; evaluation of information sources for consumer buyers; consumer protection programs.

480. Training in Demonstration Techniques. (2:1:2) F. Prerequisite: Tchr. Ed. 301. Staff

Experience in planning and presenting direct audience demonstration. Techniques for presentation before various-sized groups.

485. Fieldwork in Housing and Home Management. (3:0:6) S. Prerequisite: housing majors, Hous. Home Mgt. 440; management majors, Hous. Home Mgt. 335, 350, 351, 370, 460, and 480. Staff

Faculty-supervised participation in professional activity involving recognition of a problem, possible solutions, implementation of the solution chosen and evaluation of attained results.

520. Management of Time and Human Resources. (2:2:0) F. (Offered 1968 and alternate years) (m) Prerequisite: Hous. Home Mgt. 350. Poulson

Perspectives concerning time and human resources in family life. Concepts and principles related to the use of these resources for furthering attainment of family goals.

570. Supervision of Residence Groups. (1:1:0) F.S. Poulson
Objectives for supervision of residence groups and methods whereby residence groups in a self-directive program under the guidance of a supervisor achieve goals decided upon.

580A,B,C,D,E. Special Topics in Housing and Home Management. (2:2:0 ea.) (m) F.S.Su. Prerequisite: consent of instructor. Poulson
- A. General Management.
- B. Family Housing
- C. Family & Consumer Economics
- D. Family Finance
- E. Laboratory Supervision

590. Seminar. (2:0:3) S. Poulson

595. Readings and Projects. (1-2:1-2:0) F.S.Su. Poulson
Consultation and directed use of library and laboratory materials.

Who Provides Credit To Consumers?
Short and Intermediate—Term
Long Term
$R = \frac{2Ni}{P(n+1)}$

Students in family finance class discuss problems in wise use of family income

Humanities

Professor: Ralph A. Britsch (coordinator, A-113A JKB).

Assistant Professor: Todd A. Britsch (assistant coordinator).

Instructor: L. Tate.

(An interdisciplinary area only.)

For capable students in the humanities whose educational objectives are not met by a conventional major in one department and a minor in another, the college offers an interdepartmental major and minor, 50 semester hours in art, history, literature (including foreign literature), and music. Students are advised to support these subjects with courses in philosophy, the social sciences, and other related areas. Students will also complete a foreign language program sufficient for the B.A. degree. Of the 50 semester hours required in art, history, literature, and music, at least 25 must be upper-division work.

The educational and vocational goals of most students are best served by a conventional major and minor. A selected few students, however, will profit from broader training which includes intensive work in several of the humanities subjects. Such a program has broad cultural value. Through it students may acquaint themselves with the relationships among the various humanities subjects and obtain a valuable liberal education consisting of substantial, well-balanced work in the broad field of the humanities. (At present it is not possible to obtain a teaching certificate in humanities.)

Students may enter the humanities program only with permission of the coordinator and should register each semester thereafter under his direction.

1. Required Courses for the Major in Humanities: **Hours**

a. Humanities—9 hours—Hum. 201, 202, and 490 9

b. Art—at least 7 semester hours selected from the following (courses preceded by an asterisk are especially recommended):

		Hours
*Art 101.	Introduction to Art	2
*Art 108.	General Art	2
Art 110.	Design in Everyday Life	2
*Art 121.	Basic Drawing	3
Art 122.	Basic Figure Drawing	3
Art 301.	Art History and Appreciation	3
Art 302.	Oriental Art and Appreciation	2
Art 308.	American Art	2
Art 309.	History of Architecture	2
Art 403.	Ancient and Primitive Art	2
Art 405.	Medieval Art	2
Art 406.	Renaissance Art	2
Art 407.	19th-Century European Art	2
Art 408.	Contemporary Art	2
Art 414.	Baroque Art	2
Art 501.	Philosophy of the Fine Arts	2

Note: Humanities majors are also encouraged to take one or two of the following courses: Art 227, 233, 239, 250, 256, 263.

c. English—at least 14 semester hours selected from the following courses in English, American, and comparative literature or 8 hours from these courses and 12 hours from 400-level literature courses in a single foreign language (courses preceded by an asterisk are especially recommended):

*English 251 or 250. Fundamentals of, or Introduction to, Literature	3
English 260. Masterpieces of American Literature	3
English 270. Masterpieces of English Literature	3
English 275. Survey of English Literature	5
*English 282 or 382 or 582. Shakespeare	2 or 3
English 332. The English Novel from Defoe through Dickens	3
English 333. The Modern English Novel	3
English 335. The American Novel to Dreiser	2
English 336. The Modern American Novel	2
English 338. The European Novel	3
English 341. English Drama to 1642	2
English 342. Restoration and Eighteenth-Century Drama	2
English 343. Modern English and American Drama	2
*English 355, 356. World Classics	3 ea.
*English 361. Early American Literature	4
English 362. Later Nineteenth-Century American Literature	4
English 371. English Literature to 1500: the Medieval Period	3
English 372. English Literature from 1500 to 1660: the Renaissance Period	4
English 373. English Literature from 1660 to 1780: the Classical Period	4
English 374. English Literature from 1780 to 1832: the Romantic Period	4
English 375. English Literature from 1832 to 1900: the Victorian Period	4
English 380. Twentieth-Century Literature	5
English 381. Chaucer	3
English 450. The Criticism and Appreciation of Literature	3
English 500A,B,C,D, etc. Eminent American Writers	1 ea.
English 510A,B,C,D, etc. Eminent English Writers	1 ea.
English 572. European Literature of the Renaissance	3
English 573. European Literature of the 17th and 18th Centuries.	3
English 574. European Literature from 1760 to 1850	3
English 575. European Literature from 1832 to 1914	3

d. History—at least 6 semester hours selected from the following:

History 110, 111. World Civilization I, II	3 ea.
History 302. Near East History	3
History 304. Greek History and Civilization	3
History 307. Roman History and Civilization	3
History 310. Early Middle Ages	3
History 311. The Late Middle Ages	3
History 312. The Renaissance	3
History 313. The Reformation	3
History 340. Premodern Asia	3
History 341. Modern Asia	3
History 381. U.S. Intellectual and Social History to 1865	3
History 382. U.S. Intellectual and Social History since 1865	3

e. Languages—at least 6 semester hours selected from the following or 12 semester hours selected from the following (in one language) and 8 semester hours of English:

Classical Civilization 341. Greek and Roman Mythology	2
Classical Civilization 441. Classical Literary Traditions I: Greek Literature from Homer to the Alexandrian Period	3
Classical Civilization 442. Classical Literary Traditions II: Roman Literature of the Republic and Early Roman Empire	3
Classical Civilization 443. Classical Literary Traditions III: Latin and Greek Literature in the Middle Ages	3
Classical Civilization 461. Greek Drama in English Translation	2

French 440.	Historical Survey of French Literature	4
French 441, 442.	Survey of French Literature and Culture	3 ea.
French 445.	Introduction to French Civilization	3
German 440.	Survey of German Literature and Culture	4
German 441.	German Literature from the Beginning to 1700	3
German 442.	German Literature in the 18th Century	3
German 443.	German Literature in the 19th Century	3
German 444.	German Literature in the 20th Century	3
German 445.	Cultural History of Germany	3
Greek 431, 432.	Masterpieces of Greek Literature	3 ea.
Greek 441, 442.	Survey of Greek Literature and Culture	3 ea.
Italian 441, 442.	Survey of Italian Literature and Culture	3 ea.
Latin 431, 432.	Masterpieces of Latin Literature	3 ea.
Latin 441, 442.	Survey of Latin Literature and Culture	3 ea.
Portuguese 431, 432.	Survey of Brazilian Literature I, II	3 ea.
Russian 441, 442.	Survey of Russian Literature	3 ea.
Russian 445.	Cultural History of Russia	3
Spanish 441.	Survey of Spanish Literature	4
Spanish 445.	The Culture of the Hispanic World	3
Spanish 451.	Survey of Hispanic-American Literature	4

f. Music—at least 8 semester hours selected from the following:

Music 101.	Introduction to Music	3
Music 103.	Survey of Music Literature	2
Music 484, 485.	History of Music	3 ea.

Note: Humanities majors also are encouraged to take one or two of the many participation courses offered by the Music Department.

2. Recommended Courses in General Education for the Major in Humanities:

a. Strongly recommended courses:

Religion 453.	World Religions	2
Religion 555, 556.	Comparative World Religions	2 ea.
Philosophy 380.	Survey of Philosophy	3
Philosophy 470.	History of Ancient Philosophy	4
Philosophy 471.	History of Modern Philosophy	4
Philosophy 472.	Contemporary Ethics	2
Philosophy 475.	Contemporary Anglo-American Philosophy	2
Philosophy 477.	Scholasticism, Humanism, and Mysticism	2
Philosophy 483.	Problems of Knowledge	2

b. Suggested courses:

Anthropology 101.	General Ethnology (G-SS)	3
Anthropology 111.	Cultures of the World (G-SS)	3
Archaeology 200.	Introduction to Archaeology (G-SS)	3
Economics 241.	Comparative Economic Systems (G-SS)	3
Economics 274.	Economic History of the United States (G-HA)	3
English 350.	The Bible as Literature (G-HA)	2
Geography 120.	Geography and World Affairs (G-SS)	3
Geology 101.	Introduction to Geology (G-PS)	2
Geology 103.	Life of the Past (G-PS)	3
Library Science 466.	Building Library Collections	3
Library Science 585.	History of the Book	2
Psychology 350.	Introduction to Social Psychology (G-SS)	3

3. Recommended Courses Not in General Education for the Major in Humanities:

Anthropology 241.	The Growth of Culture in the Old World	3
Economics 415.	History of Economic Thought	3
Psychology 440.	Abnormal Psychology	3
Psychology 450.	Personality	3
Sociology 405.	Social Systems Analysis	3

Courses

101. An Introduction to the Humanities. (3:3:0) F.S.Su. (G-HA)
A course in applied aesthetics, concerned with the forms and relationships of the major arts—literature, painting, sculpture, architecture, and music.

201. The Arts in Western Culture: Age of Greece to Early Renaissance. (3:3:0) F.S. (G-HA)
The development of the major arts—literature, painting, sculpture, architecture, and music—in the Greek and Roman periods, the Middle Ages, and the early Renaissance.

202. The Arts in Western Culture: Late Renaissance to the Modern Age. (3:3:0) F.S. (G-HA)
The development of the major arts—literature, painting, sculpture, architecture, and music—from the late Renaissance to the present.

401H. Man in the Contemporary World. (3:4:0) F.S.
Conceptions of man and his world as currently expressed in various humanistic disciplines. For juniors and seniors in the Honors Program only.

402H. Man and Contemporary Science. (3:4:0) F.S.
The impact of science on contemporary thought and life, explored through readings and discussion on selected topics from the several sciences. For juniors and seniors in the Honors Program only.

490. Senior Seminar. (3:3:0) S. Prerequisite: senior status with major in humanities or one of the departments in the College of Humanities or the College of Fine Arts and Communications.
Extensive reading, analysis, and presentation of papers concerning problems in the humanities—period classification, relationships between the arts, and current critical practice.

498. Directed Readings. (1-2:0:Arr.)

Students in the BYU Semester Abroad Program enjoy a sidetrip to the Colosseum in Rome

Industrial Education

Professors: Hinckley (chairman, 240H SIE), Jeppsen, McArthur.

Assistant Professors: Gamett, Holt, Jenkins, McKinnon, Nish.

The Industrial Education Department provides four major programs of instruction:

1. **Industrial Arts Teacher Education** (general shop program), offering instruction leading to the baccalaureate degree to prepare industrial arts teachers for junior and senior high schools. A special elementary program is also available.
2. **Technical Teacher Education** (unit shop program), offering instruction leading to the baccalaureate degree to prepare teachers for unit shop programs for high schools and for vocational and technical schools.
3. **Graduate Teacher Education,** leading to the master's degree in industrial education to prepare master teachers, supervisors, and coordinators of industrial and technical education.

   Note: In cooperation with the College of Education, the Doctor of Education degree is available with minor emphasis in industrial education.
4. **The General Service Courses,** open to all students. These courses offer basic training in fundamental operations and processes and are designed to give exploration, guidance, and consumer knowledge in crafts and in modern industrial fields.

REQUIREMENTS FOR THE SECONDARY TEACHING CREDENTIAL

Students planning to become teachers are encouraged to seek early advisement from the department concerning the teacher education program. An attempt to complete one phase of the program ahead of schedule would complicate the smooth functioning of the program. Students beginning their professional preparation in the senior year may find it necessary to devote additional time to complete the program.

General Education Requirements

See "General Education Requirements" in the Student Academic Services Section of this catalog. These requirements should be distributed throughout the four-year program.

Courses Fulfilling Nonteaching Minors

Courses fulfilling minors are designated in this department as follows: crafts minor—(cm), drafting minor—(dm), electronics minor—(em), metalwork minor—(mm), woodwork minor—(wm), farm mechanics minor—(fm), graphics minor—(gm), industrial arts minor (iam, for elementary teachers only).

Educational Requirements for Certification

See the requirements listed by the College of Education. Refer to Teacher-Education Section for industrial education certification standards.

Note: Indus. Ed. 377 and 479 must be taken in the Industrial Education Department, not in the Department of Teacher Education.

INDUSTRIAL ARTS AND TECHNICAL TEACHER EDUCATION

(Composite Teaching Major)

Baccalaureate certification programs are offered in industrial arts and technical teacher education. These include general shop, with a junior high school or senior high school emphasis, and the technical teacher unit shop program.

Industrial Arts — General Shop Program

This program is designed to prepare teachers for elementary, junior high school, and high school industrial arts positions. Two options are available to give the optimum training for the grade level to be taught. The student should follow either junior high school or high school emphasis as listed below, depending on his particular interest.

Core List:

Drafting 111, Engr. Tech. 101*; Indus. Ed. 100, 129, 250, 260, 289, 405, 460, 470, 535**, 540**; Art 110*; Math. 121*; physics or chemistry, 3 hours*.

* Satisfy general education requirements.

** May be reserved for graduate credit, if taken last semester before graduation.

Technical Elective for Depth Sequences: 28 semester hours.

Junior High School and Senior High School General Shop Emphasis:

The 28 hours of technical electives will be distributed equally among a minimum of 4 of the technical areas, thereby providing the balance of breadth and depth desirable for junior high school teachers.

For this program, technical courses will be selected from the following list:

Crafts:
Art 312 and the balance from Indus. Ed. 160, 360, 493A,B,C,D; Art 256, 263, 366.

Drafting/Design:
Art 312 and the balance from Drafting 210, 211, 311, 355, 410.

Electricity/Electronics:
Indus. Tech. 242, 341; Engr. Tech. 102, 221, 228, 234.

Graphic Arts:
Art 312 and the balance from Indus. Tech. 351, 452, 453; Indus. Ed. 493; Art 250.

Metals:
Indus. Ed. 130, 139, 326; Indus. Tech. 325 and the balance from Indus. Tech. 120, 125, 231, 335, 337.

Woods:
Indus. Ed. 105; Art 312; Indus. Tech. 210 and the balance from Indus. Ed. 119, 200; Indus. Tech. 211, 301, 337.

High School Specialized Emphasis:

The 28 hours of technical electives will be selected from 2 areas with a minimum of 16 semester hours in each area. Credit earned in the related core program courses may be counted as part of the 16 hour totals.

For this program technical courses will be selected from the following list:

Crafts:
Indus. Ed. 260, 360; Art 312 and seven hours selected from Indus. Ed. 160, 493A,B,C,D; Art 256, 263, 366.

Drafting/Design:
Drafting 111, 355; Art 312 and nine hours selected from Drafting 210, 211, 256, 311, 355, 410, 411.

Electricity/Electronics:
Engr. Tech. 101, 102, and ten hours selected from Indus. Tech. 242, 341; Engr. Tech. 221, 228, 231, 232, 234, 235.

Graphic Arts:
Indus. Ed. 250; Art 312 and eleven hours selected from Indus. Tech. 351, 452, 453; Indus. Ed. 494; Art 250.

Metals:
Indus. Ed. 129, 130, 139, 326; Indus. Tech. 325 and five hours selected from Indus. Tech. 120, 125, 231, 335, 336, 337.

Woods:
Indus. Ed. 100, 105; Art 312; Indus. Tech. 210 and six hours selected from Indus. Ed. 119, 200; Indus. Tech. 211, 301, 337.

Technical Teacher Unit Shop Program

This curriculum is designed to prepare teachers for unit shop-type technical programs for senior high schools and post high school institutions. Admittance to the program requires approval by the department, together with a GPA of 2.25 or above. The program provides considerable depth in one technical area with extensive supporting work in related areas of science and mathematics. Completion of this program without industrial experience prepares a person for certification as a unit shop industrial arts teacher. Completion of this program, together with a necessary industrial experience required for certification, will qualify a person as a technical teacher or as a trade and industrial teacher. General requirements are as follows:

	Minimum Semester Credit Hours
A. A prescribed two-year technical program approved by the department.	64
B. Selected and approved advanced technology courses in the specialty area.	12
C. Additional general education and group requirements specified by the University for the baccalaureate degree.	26
D. Professional education courses.	22
E. Professional industrial education courses.	6
	130

GRADUATE WORK IN INDUSTRIAL EDUCATION

The Industrial Education Department offers graduate programs leading to the Master of Science and Master of Industrial Education degrees. Both programs require a minimum of 33 semester hours.

The Master of Science degree requires completion of a thesis and is strongly recommended for anyone contemplating future graduate work leading to the specialist or Doctor of Education degree.

The Master of Industrial Education degree requires completion of a noncredit master's paper and prior teaching experience. It is designed to further develop the educational and technical background of the professional teacher.

Master of Science

Majors: Industrial Arts Education, Technical Education.

Suggested Minors: Education and psychology, guidance and counseling, personnel and industrial relations, educational supervision and administration, business administration, industrial management, or junior college curriculum.

Major Requirements: Grad. Ed. 552, 660; Indus. Ed. 699 and a minimum of 14 semester hours selected from Indus. Ed. 505, 535, 540, 593A,B,C, 595A,B,C, 610, 615, 620, 625, 630, 635, 640, 645, 650, 690, 691, 694A,B,C; Grad. Ed. 550, 560.

Minor Requirements: 9-10 semester hours selected in consultation with the minor adviser. See above list of suggested minors.

Research and Thesis: Grad. Ed. 552, 660; Indus. Ed. 694, 699.

Entrance Requirements: In addition to the requirements for the master's degree listed in the Graduate School Section of this catalog, the Industrial Education Department requires

A. Satisfactory completion of 30 semester hours in industrial and technical education undergraduate courses prior to or concurrent with the graduate work or a minimum of 6 years of bona fide trade experience.

B. Satisfactory completion of a qualifying examination given by the Industrial Education Department.

C. Although not required, a minimum of one year of teaching experience in industrial education will give much more meaning to the graduate work.

Master of Industrial Education

Majors: Industrial Arts Education or Technical Education.

Suggested Minors: Art, business administration, education and psychology, guidance and counseling, industrial management, junior college curriculum, educational supervision and administration.

Major Requirements:

Indus. Ed. 610.	History and Trends in Industrial and Technical Education or	
Indus. Ed. 615.	Principles and Objectives of Industrial and Technical Education	2
Indus. Ed. 695.	Problems in Industrial and Technical Education	2
Indus. Ed. 690.	Seminar	1
Indus. Ed. 694.	Reading and Conference	2
Grad. Ed. 560.	Educational Tests and Measurements	3
Grad. Ed. 610.	Development of Instructional Materials (Audio-Visual Aids)	2
And a minimum of 12 semester hours selected from the following: Indus. Ed. 505, 535, 540, 593A,B,C, 610, 615, 620, 625, 630, 635, 640, 645, 650, 691		12
	Minimum Major Total Hours	24 hrs.

Minor Requirements: 9-10 semester hours selected in consultation with the minor adviser. See above list of suggested minors.

Credit Requirements: A minimum of 33 semester hours.

Research and Master's Paper: A master's paper, which is a noncredit paper giving a detailed report of work completed in Indus. Ed. 695 and concerning a special technical problem in the area of industrial education is required. No credit will be given for the course until the paper has been accepted by the department. The problem topic will be determined in consultation with the major adviser.

Oral Examination: A one-hour oral examination on major and minor course work with a committee consisting of the major adviser, an additional representative of the major department, and the minor adviser.

Entrance Requirements:

A. A valid industrial education teaching certificate.

B. A minimum of one year of teaching experience in industrial education.

C. Satisfactory completion of a qualifying examination given by the Industrial Education Department.

Courses

100. Woodwork Fundamentals. (3:2:4) F.S. (iam, wm, fm) Nish
Care and use of hand and machine woodworking tools applied to fundamental principles of sawing, joining, fitting, and fastening.

105. Wood Finishing. (2:1:3) F.S. (iam, wm) McKinnon
Preparation of surfaces for the application of finishes, stains, paints, varnishes, lacquers, polishes, etc. Use of brush and air gun.

119. Upholstery I. (2:1:3) F.S. (wm) Gamett
Typical forms of upholstery, including foundations with and without springs.

129. Metalwork Fundamentals. (3:2:4) F.S.Su.
An introduction to the field of metal-working processes for industrial education majors. Includes basic metal cutting and welding.

130. Introduction to Manufacturing Processes. (3:2:4) F.S.Su. (mm, fm)
An introduction to the processes of shaping, forming, and stamping of metals. For industrial education majors.

139. Sheet Metal and Ornamental Iron. (2:1:3) F.S. (iam, mm, fm) McKinnon
Projects in sheet metal, ornamental iron work, and pattern layout.

160. Recreational Handicrafts. (2:1:3) F.S. (iam, cm) Evening registration only. McKinnon
Students may work in a selected area according to their interests—woodwork, metalwork, plastics, lapidary work, etc. Course is open to all students interested in leisure-time activities.

200. Woodwork Projects. (3:1:5) F.S.Su. (wm) Prerequisite: Indus. Ed. 100. Nish
Use of hand and machine tools in the construction of furniture. Drawings, specifications, and cost estimates of all projects are submitted by the student.

250. Graphic Arts. (3:2:3) F.S.Su. (cm) Jenkins
Beginning course in the principles and practices of graphic arts. Includes a study of how each reproduction process fits into the field of visual communications.

260. Crafts. (3:2:4) F.S.Su. (cm) Gamett
Fundamental hand and machine operation used in working plastics, wood, and leather.

289. Power Sources of Industry. (3:2:4) F.S.Su. Long
Theory and application of power sources and power transmission.

319. Upholstery II. (2:1:3) F.S. Prerequisite: Indus. Ed. 119. Gamett
Advanced work in upholstery.

326. Welding Processes Laboratory. (1:0:3) F.S. Prerequisite: concurrent registration in Indus. Tech. 325.
Skill development in common welding processes for industrial arts teachers.

360. Metal Crafts and Lapidary. (3:2:4) F.S.Su. (cm) Gamett
Projects in metals, lapidary, and enameling.

375. Organization and Development of Instructional Materials. (2:2:0) F.S. Prerequisite: completion of or concurrent registration in Tchr. Ed. 301. Hinckley, Holt
Organization and development of instructional materials to be used in

industrial education classes, based on the principles and objectives of industrial education.

377. **Secondary Teaching Procedures.** (3:3:3) F.S. Prerequisite: Indus. Ed. 375. Jeppsen

Methods, techniques, and special classroom procedures applied to individual and group instruction in industrial and technical education.

405. **Shop Maintenance.** (2:1:3) F.S. Gamett

Care and maintenance of tools and machines.

460. **Industrial Plastics.** (3:2:4) F.S.Su. Gamett

Working properties of plastics used in processes of laminating, molding, extruding, casting, and thermoforming.

470. **Shop Organization and Management.** (2:2:2) F.S. Prerequisite: completion of or concurrent registration in Indus. Ed. 377. McArthur

Organization and management of industrial education shops, including unit, general, and multiple activity types.

479. **Objectives and Practices in Teaching Industrial Arts.** (8:1:40) F.S. Prerequisites: Indus. Ed. 377; Tchr. Ed. 301, 310. Gamett

Student teaching. Material is prepared, and principles and objectives of the industrial arts program are formulated and discussed.

490. **Special Problems in Metals.** (1-3:Arr.:Arr.) F.S.Su.

Individual study in special areas of interest related to machine shop practices or welding.

491. **Special Problems in Wood.** (1-3:Arr.:Arr.) F.S.Su.

Individual study in special areas of interest related to furniture or building construction.

492. **Special Problems in Electricity.** (1-3:Arr.:Arr.) F.S.Su.

Individual study in special areas of interest related to industrial or commercial applications of electricity and electronics.

493A,B,C,D. **Special Problems in Crafts.** (1-3:Arr.:Arr. ea.) F.S.Su.

A—wood, B—lapidary, C—leather, D—metals. Limited to a maximum of three hours of credit for each letter.

494. **Special Problems in Graphic Arts.** (1-3:Arr.:Arr.) F.S.Su.

Individual study in special areas of interest related to industrial applications of graphic art processes.

505. **Industrial Arts for Elementary Teachers.** (2:2:0) F.Su.

Nature and needs of teachers instructing industrial arts in the elementary schools with emphasis on content and procedures.

535. **Industrial Education Safety and Liability.** (2:2:0) S.Su. Hinckley, Holt

Principles of accident causes and prevention in industrial education laboratories. Teacher and student responsibility regarding liability. Present laws affecting school safety.

540. **Industrial Occupational Information and Guidance.** (2:2:0) S.Su. Hinckley, McArthur

593A,B,C. **Workshop in Industrial Education.** (1-3:Arr.:Arr.) F.S.Su. Staff

Instruction in current industrial and technological advances related to industrial education.

610. **History and Trends in Industrial and Technical Education.** (2:2:0) F.Su. McArthur

Historical developments of industrial and technical education programs from their early beginnings to the present time.

615. Principles and Objectives of Industrial and Technical Education. (2:2:0) F. Su. Densley, McArthur
General philosophy, principles, and objectives of industrial arts, vocational education, and technical education programs.

620. Analysis in Industrial and Technical Education. (2:2:0) F.Su. Prerequisite: Indus. Ed. 615 or consent of instructor. Hinckley

625. Course Construction in Industrial and Technical Education. (2:2:0) S.Su. Prerequisite: Indus. Ed. 620 or consent of instructor. Hinckley, McArthur
Preparation and use of a course of study in industrial and technical fields based on an analysis of the occupation.

630. Problems of Adult Industrial Education. (2:2:0) F.Su. Prerequisite: Indus. Ed. 625.
Development of the adult industrial education movement and the problems relative to teaching adults with emphasis on continuing education.

635. Planning and Equipping Industrial and Technical Programs. (2:2:0) S.Su. Prerequisite: Indus. Ed. 625. McArthur
A study of industrial and technical school laboratories designed to facilitate and supervise instruction in industrial arts, vocational education, and technical education.

640. Coordination and Supervision of Industrial and Technical Education. (2:2:0) F.Su. Prerequisite: Indus. Ed. 625. Jeppsen
Methods of supervision and coordination of industrial arts, vocational education, and technical education programs, including laws, regulations, and policies affecting these programs.

645. Visual and Graphic Materials in Industrial Education. (2:1:2) S.Su. Nish
Basis for the selection, development, and use of visual and graphic materials and their contribution to facilitating instruction in industrial and technical education.

650. Design in Industrial Education. (2:1:3) F.Su.
Design procedures and evaluation relative to aesthetics, material characteristics, and manufacturing processes; design implementation in the laboratory; applicable drafting techniques.

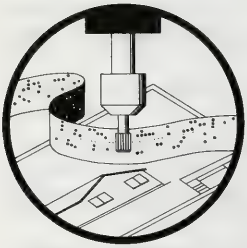
690, 691. Seminar. (1:1:0 ea.) Su.
Review of latest developments and research findings in the field of industrial and technical education.

694A,B,C. Reading and Conference. (1-3:1-3:0 ea.) F.S.Su.
Limited to a maximum of six credit hours.

695A,B,C. Problems in Industrial and Technical Education. (1-3:1-3:3-9 ea.) F.S. Su.
Limited to a maximum of six credit hours.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

Industrial Technology



Professor: McArthur (chairman, 230A SIE).

Assistant Professors: Allen, Brown, Smart, Tolman.

Instructor: Naegle.

Special Instructors: Long, Schow.

The Industrial Technology Department offers programs designed to meet the needs of two distinct groups of students. Baccalaureate-degree programs are offered in building construction, design and drafting, electronics, and manufacturing. Associate-degree technician programs are offered in drafting, graphic arts, light building construction, tool design, and welding. The curriculum is designed to meet the needs of two distinct groups of students.

1. Introductory courses for those students desiring a greater understanding of the industrial and technical activity in the world of today.
2. Technical courses for those students desiring to prepare for entrance into industrial and technical occupations in the world of work.

These programs are designed to develop successful and productive citizens with a constructive philosophy of life. To receive maximum benefit in the minimum time, students should contact the department chairman and be assigned an adviser who will help them work out a program of studies.

Following is a description of the baccalaureate-degree **technology** programs. The associate-degree **technician** programs are listed in the Technical Institute Section of this catalog.

BUILDING CONSTRUCTION TECHNOLOGY

(Four-year baccalaureate degree)

The Building Construction Technology Program includes instruction in basic woodwork, drafting, cabinet work, house framing, carpentry finishing, plumbing, house wiring, and masonry; building materials and methods; estimating, accounting, and economics.

New construction materials and methods have radically changed building construction within the last few years. Men who know how to use effectively the new techniques, as well as the traditional methods, are much needed by the construction industry. This baccalaureate-degree technology program is planned to prepare men to fill that need. Typical positions of graduates of this program are field men for architects, building material dealers, contractors, and contractor field supervisors.

First Year

	F	S
Undergrad. Relig. 121, 122	2	2
Indus. Ed. 100, 105	3	2
Indus. Ed. 139, Indus. Tech. 325	2	2
Math. 121, 122	3	3
Engl. 111, 112	3	3
Hist. 170	3	
Health 130		2
Gen. ed.		2
P.E.	½	½
Total Hours	16½	16½

Second Year

	F	S
Indus. Tech. 210, 211	3	2
Minor	2	
Indus. Tech. 218		2
Indus. Tech. 341		2
Drafting 111, 256	3	3
Math. 223	3	
Physics 105, 106	3	3
Econ. 101		3
Undergrad. relig.	2	2
P.E.	½	½
Total Hours	16½	17½

Third Year

	F	S
Engr. Tech. 205, 206	3	3
C.E. 211, Drafting 210	3	3
Minor	2	4
Acctg. 201	3	
Gen. ed.	2	4
Undergrad. relig.	2	2
Total Hours	15	16

Fourth Year

	F	S
Indus. Tech. 410, 411	3	3
Indus. Tech. 301, 317	3	2
Bus. Mgt. 340, Drafting 355	3	3
Minor	3	3
Gen. ed.	2	3
Undergrad. relig.	2	2
Total Hours	16	16

DESIGN AND DRAFTING TECHNOLOGY

(Four-year baccalaureate degree)

(Accredited by the Engineering Council for Professional Development)

This program prepares design draftsmen for employment in the aerospace and other mechanical oriented industries. Graduates from this program, while not engineers, are advanced technicians and technologists well prepared to work with and assist the engineer by performing many important responsibilities which will increase his efficiency and productivity. Upon satisfactory completion of this program, graduates receive the baccalaureate degree in design and drafting technology with a minor in tool and manufacturing technology.

First Year

	F	S
Drafting 111, 211	3	2
Math. 121, 122	3	3
Engl. 111, 112	3	3
Engr. Tech. 100, Gen. ed.	1	3
Health 130	2	
Hist. 170		3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Dev. assy.	½	½
Total Hours	15	17

Second Year

	F	S
Drafting 210	3	
Indus. Tech. 131, 242	3	3
Math. 223, Chem. 105	3	4
Physics 105, 106	3	3
Econ. 101		3
Undergrad. relig.	2	2
P.E.	½	½
Dev. assy.	½	½
Total Hours	15	16

Third Year

	F	S
Indus. Tech. 336	3	
Indus. Tech. 338		3
Engr. Tech. 216	4	
Indus. Tech. 335		4
Engl. 316	2	
Gen. ed.		5
Undergrad. relig.	2	2
Indus. Tech. 430		3
Indus. Tech. 330	3	
Comput. Sci. 331	3	
Dev. Assy. 301, 302	½	½
Total Hours	17½	17½

Fourth Year

	F	S
Drafting 411, 410	2	3
Indus. Tech. 332, 431	2	3
Indus. Tech. 434, 435	3	2
Gen. ed.		6
Econ. 101	3	
Drafting 311	3	
Indus. Tech. 436, 437	3	3
Dev. Assy. 401, 402	½	½
Total Hours	16½	17½

MANUFACTURING TECHNOLOGY

(Four-year baccalaureate degree)

(Accredited by the Engineering Council for Professional Development)

The four-year program in manufacturing technology leading to a baccalaureate degree includes machine tool operation, machine tool performance, manufacturing processes and materials, mechanisms, manufacturing analysis, production planning, metrology, physical metallurgy, tool design, automation, and computer programming.

Graduates of this program work as advanced tool design technicians, inspectors, process planners, tool engineering technicians, automatic machine tool programmers, tool and gauge designers, and production estimators.

Students who have demonstrated ability in the basic courses and desire further specialization in this field of technology should contact an adviser in this area.

First Year

	F	S
Chem. 105		4
Indus. Tech. 131	3	
Health 130	2	
Drafting 111, 211	3	2
Math. 121, 122	3	3
Engl. 111, 112	3	3
Hist. 170		3
Undergrad. Relig. 121, 122	2	2
P.E.	½	
Dev. Assy. 101, 102	½	½
Total Hours	17	17½

Second Year

	F	S
Indus. Tech. 231, 242	3	3
Drafting 210, Indus. Tech. 335	3	4
Engr. Tech. 216	4	
Math. 223	3	
Engl. 316		2
Physics 105, 106	3	3
P.E., undergrad. relig.	½	2
Dev. Assy. 201, 202	½	½
Comput. Sci. 331		3
Total Hours	17	17½

Third Year

	F	S
Indus. Tech. 325, 333	2	3
Indus. Tech. 336, 332	3	2
Indus. Tech. 338, 330	3	3
Technical elective*	3	
Indus. Tech. 430		3
Econ. 111, Stat. 221	3	3
Undergrad. relig.	2	2
Dev. Assy. 301, 302	½	½
Total Hours	16½	16½

Fourth Year

	F	S
Indus. Tech. 431	3	
Indus. Tech. 433	3	
Technical elective*		7
Gen. ed.	5	9
Undergrad. relig.	2	
P.E.	½	½
Indus. Tech. 436	3	
Dev. Assy. 401, 402	½	½
Total Hours	17	17

*Technical electives—Select 10 hours from the following:

Indus. Tech. 432 (2), 434 (3), 435 (2), 437 (3), 590 (1-3); Bus. Mgt. 420 (3), 340 (3); Chem. 105 (3), 106 (3); Comput. Sci. 201 (2); Indus. Ed. 250 (3), 460 (3).

Courses

120. Acetylene Welding I. (2:1:3) F.S. (mm, fm) Long

Principles and practices in the fundamentals of oxyacetylene welding and cutting of steel. A general course open to all college students.

121. Acetylene Welding Laboratory. (3:0:9) F. Prerequisite: concurrent registration in Indus. Tech. 120. Long

Laboratory experience in oxyacetylene fusion welding, heating, brazing, and cutting of light gauge and plate steel.

125. Electric Welding I. (2:1:3) F.S. (mm, fm) Long
Principles and practices with electric welding equipment. Methods used in arc welding of steel in flat position. A general course open to all college students.

126. Electric Welding Laboratory. (3:0:9) S. Prerequisite: concurrent registration in Indus. Tech. 125. Long
Laboratory experience in arc welding of steel plate with emphasis on commonly used joints.

131. Machine Tool Operation. (3:2:3) F.S.Su. (mm) Naegle, Schow
Function and operation of basic machine tools and accessories.

188. Farm Machinery. (3:1:5) F. (fm)
Care and maintenance of general farm equipment.

189. Gas and Diesel Engines. (3:1:5) F. S. (fm) Long
Care and maintenance of gas and diesel engines. Includes overhaul and rebuilding procedures.

210. Carpentry Framing. (3:1:5) F.S. (wm, fm) Prerequisite: Indus. Ed. 100. McKinnon
Practical problems in forming, framing, sheathing, and insulation.

211. Carpentry Finishing. (2:1:3) S. (wm) Prerequisite: Indus. Tech. 210. McKinnon
Practical problems in interior and exterior trim.

218. Plumbing. (2:1:3) S. (fm) (Offered alternate odd years) McKinnon
Plumbing and plumbing layout.

221. Acetylene Welding II. (5:2:8) F. Prerequisite: Indus. Ed. 129. Long
Advanced practices in all phases of oxyacetylene welding, brazing, metalizing, and cutting.

226. Electric Welding II. (5:2:8) S. Prerequisite: Indus. Ed. 129. Long
Advanced practices in arc-welding processes including work in submerged arc, resistance, stud welding, and arc cutting.

227. Inert-Gas Welding. (3:1:5) S. Prerequisites: Indus. Tech. 121, 126. Long
Principles and practices of gas-shielded welding of ferrous and nonferrous metals.

231. Manufacturing Processes and Materials. (3:2:3) F.S. Allen, Naegle
Economic and technical studies of manufacturing processes and materials including testing, heat-treatment, machining, forming, stamping, extruding, casting, high-energy beam machining, powder metallurgy, welding and cutting, bonding and finishing.

242. Electric and Electronic Controls. (3:2:2) F.S. Prerequisite: Math. 121.
Study of the operation and application of electrical and electronic controls on industrial machinery.

301. Cabinet Making and Millwork. (3:1:5) F. (wm) Prerequisite: Indus. Ed. 200. McKinnon
Design and construction of cabinets, and study of milling operations.

317. Concrete and Masonry. (2:1:3) S. (fm) (Offered alternate even years) McKinnon, Nish
Fundamental study and experience in the preparation and placement of concrete. Practice in laying cinder block, concrete block, and general introduction to masonry.

325. Welding Processes. (2:1:3) F.S. (mm) Long
A general course dealing with theory, application, and economics of various welding processes. Includes study of resistance, arc, thermite, gas, forge, and high-energy beam welding processes, as well as brazing, cutting, and metallizing processes.

330. Mechanisms. (3:3:0) F.S. Prerequisites: Engr. Tech. 216, Math. 223. Naegle

Graphical solution of problems involving displacement, velocity, and acceleration in tool and machine mechanisms, including study of linkages, gear trains, cams, and power transmission devices.

332. Production Planning. (2:2:0) F.S. Prerequisite: Indus. Tech. 231 or equivalent. Naegle, Schow

Planning and coordination of manufacturing facilities for economical production. Includes study of materials, lot sizes, motion and time studies, scheduling, and plant layout.

333. Metrology. (3:2:2) S. Prerequisites: Indus. Tech. 231, Stat. 221, or concurrent registration. Naegle, Schow

Theory, selection, and application of precision, optical, electronic, pneumatic and mechanical instruments for measurement of length, angle flatness, finish, shape, and soundness of manufactured parts.

335. Introduction to Physical Metallurgy. (4:3:3) F.S. Prerequisite: Indus. Tech. 231 or consent of instructor. Allen, Schow

A study dealing with mechanical testing, metal structure, metallurgical examination, plastic deformation, constitution diagrams, heat treatments, ferrous and nonferrous alloys, wear, corrosion, powder, welding, and foundry metallurgy.

336. Basic Fluid Power. (3:2:4) F.S. Prerequisite: Math. 121. Long

A study of hydraulic and pneumatic systems as a means of transmitting and controlling power; component identification and operation, fluid power graphical symbols, circuits, and applications.

337. Pattern Making and Foundry Practice. (2:1:3) S. Prerequisite: Indus. Ed. 100. Hinckley

Principles of pattern making involving use of wood, plastic and plaster patterns, and metal castings.

338. Machine Tool Performance. (3:2:2) F.S. Prerequisites: Indus. Tech. 231, 335, Physics 105. Allen, Schow

Study of cutting tool geometry, tool materials, cutting forces, feed, speed, surface finish, horsepower requirements, efficiency, coolants, vibration and machine tool evaluation with computer applications.

341. House Wiring. (2:2:2) F.S. (fm) McArthur

Electrical circuits in homes and farm buildings.

342, 343. Digital Electronics. (3:2:3 ea.) F.S. Prerequisites: Engr. Tech. 231, 235; completion of or concurrent registration in Engr. Tech. 232 and 237. Smart

Semiconductor pulse and switching circuits including integrated circuits for radar, computer, and digital applications; Boolean algebra; logic circuits; and applications in digital systems.

351. Typographical Layout and Design. (3:2:4) F.S. Prerequisite: Indus. Ed. 250. **Jenkins**

Principles of design applied to products of the printer. Arrangement and paste-up of art materials for reproduction. A study of ink, paper, and theory of color.

410. Construction Materials and Methods. (3:3:0) F. (Offered alternate even years) McKinnon

Theoretical aspects of buildings, locations, soil conditions, footings, materials, and equipment.

411. Estimating. (3:3:0) S. (Offered alternate odd years)

Interpreting plans and specifications. Methods of estimating and figuring costs of materials and labor.

430. Automation in Manufacturing. (3:2:3) S. Prerequisites: Comput. Sci. 331, Indus. Tech. 242, 330, 336. Allen, Naegle

Study, evaluation, and programming of numerically controlled machine tools, and of equipment for automatic machining, inspecting, and material handling by means of electronic and fluid power devices.

431. Tool Design. (3:2:3) F. Prerequisites: Indus. Tech. 333, 338. Naegle, Schow

Design of jigs, fixtures, gauges, cutting tools, and stamping, forming, and molding dies. Includes study of press design, cutting and forming pressures, feeding mechanisms and safety features.

432. Manufacturing Research Laboratory. (2:0:6) S. Prerequisites: Indus. Tech. 430, 431. Naegle, Schow

Students select and conduct research in one or more manufacturing areas. Instruction is given in electrical discharge machining.

433. Manufacturing Analysis. (3:3:0) F. Prerequisites: Indus. Tech. 231, 333, 335, 338, 430. Allen, Naegle

Product design analysis, manufacturing process analysis and selection, machine tool cost and function analysis, manufacturing economics, value analysis, and post-production analysis.

434. Elements of Machines I. (3:2:3) S. Prerequisites: Engr. Tech. 216, Indus. Tech. 330, 336. Naegle, Schow

Theory and application of machine elements including study of working stresses, power transmission, bearings and lubrication, fasteners, vibration, heat and human engineering, and laboratory work. Includes basic experimental stress analysis.

435. Elements of Machines II. (2:1:3) F. Prerequisite: Indus. Tech. 434. Naegle, Schow

An integrated course for advanced students in which electronic, pneumatic, hydraulic, and mechanical components are applied to the design of products, tools, machines, and equipment.

436. Basic Computer-Assisted Part Programming. (3:2:3) F. Tolman

A basic course in computer-assisted part programming with emphasis on APT.

437. Advanced APT Part Programming. (3:2:3) S. Tolman

Advanced computer-assisted APT part programming for machine tools and digital plotters.

439. Optical Tooling. (2:1:3) F.S.Su. (Offered 1968-69 and alternate years) Prerequisites: Physics 106, Indus. Tech. 333. Naegle

Application of optical tools for precision measurement and alignment of manufacturing tooling.

441, 442. Real-time Computer Systems. (3:2:2 ea.) F.S. Prerequisites: Indus. Tech. 343, completion of or concurrent registration in Indus. Tech. 437. Brown

Characteristics of typical system interfaces between modern control computers and physical plants and real-time programming techniques to satisfy interface requirements.

452. Graphic Arts II, Letterpress. (5:3:6) F. Prerequisite: Indus. Ed. 250. Jenkins

Advanced instruction and practice in principles of composition, presswork, block printing, rubber plates, and make-ready, die-cutting, scoring, and perforating. Instruction is given in the basics of photoengraving and stereotyping.

453. Graphic Arts III, Photolithography. (5:3:6) S. Prerequisite: Indus. Ed. 250. Jenkins

Advanced procedures in offset camera work, stripping procedures and surface platemaking for offset lithography. Emphasis on presswork, cold-type makeup and silk-screen printing.

590. **Special Problems in Manufacturing Technology.** (1-3:Arr.:Arr.) F.S.Su. Prerequisite: consent of instructor.

593. **Special Problems in Welding Technology.** (1-3:Arr.:Arr.) F.S.Su. Prerequisite: consent of instructor.

DRAFTING

Courses

109. **Industrial Arts Design.** (1:1:1) F.S. Gamett
Fundamental elements and processes of design in industrial arts.

110. **Blueprint Reading.** (2:2:0) F.S. Home Study also.
A basic course in the fundamentals of modern blueprint reading. For those not majoring in industrial or technical education.

111. **Mechanical Drawing Fundamentals.** (3:3:0) F.S. Home Study also. Tolman
Fundamentals of mechanical drawing, including sketching, lettering, orthographic projection, auxiliary views, sectional views, isometric drawing, and basic dimensioning.

210. **Descriptive Geometry.** (3:2:4) F.S. Prerequisite: Drafting 111. Naegle
Principles relating to point, line, plane, curved lines and surfaces, vectors, intersections and developments with application to practical problems.

211. **Advanced Mechanical Drafting.** (3:3:1) F.S.Su. Prerequisite: Drafting 111 or equivalent. Tolman
Instruction in techniques of working drawings, precision dimensioning, reproduction methods, simplified drafting, S.A.E., aerospace standards, and modern drafting room procedures and practices.

256. **Rendering and Perspectives.** (3:1:5) F.S. Prerequisite: Drafting 335. Tolman
Methods and procedures involved in rendering and drawing one-, two-, and three-point perspectives.

311. **Aeronautical Drafting.** (3:2:4) F.S. Prerequisites: Drafting 210, 211. Tolman
Familiarization of terms and principles of flight, production drawings, layouts, sheet metal, lofting, microfilm requirements, manuals, mill specifications, checking and change procedure.

355. **Residential Drafting and Planning.** (3:2:4) Prerequisites: Drafting 111 or consent of instructor. Tolman
A correlation of good residential drafting techniques with basic principles of efficient house planning. Includes perspectives, plot plan, footing, foundation, floor plans, elevations, sections, electrical and mechanical installations.

356. **Commercial Structure Drafting.** (3:1:5) F.S. Prerequisite: Drafting 355. Tolman
Students design and plan a small commercial building complete with working drawings.

410. **Technical Illustration.** (3:2:4) F.S. Tolman
Problems in axonometric illustration. Use of templates, overlays, Anderson Board, visuals, perspectives and airbrush techniques.

411. **Photodrawing.** (2:1:3) F. Prerequisite: Drafting 311. Jenkins
Applied course in the use of basic equipment, procedures, processes and techniques which are common to industrial photodrawing practices.

449. **Special Problems in Drafting.** (1-3:Arr.:Arr.) F.S.Su. Prerequisite: consent of instructor.

International Relations Program

Associate Professor: Ray C. Hillam (coordinator, 374B Maeser).

The International Relations Program is an interdisciplinary program which provides a concurrent major or a minor leading to the B.A. degree.

The program is designed to prepare the student for a career or for advanced study in international relations. Students will be required to complete a major in a department to acquire a basic knowledge of a modern language, and to develop an integrated understanding of international relations. To enable the student to compete more effectively for a career, the student will be introduced to the study of intercultural relations and international politics in fields such as anthropology, psychology, sociology, geography, history, economics, and political science. This broad interdisciplinary training is also designed to prepare the student for advanced study in international relations.

Requirements for a Concurrent Major:

In addition to a departmental major and 16 hours (or equivalent) of modern language the international relations major requires 28 hours. The program is divided as follows:

	Hours
1. International Relations (Pol. Sci. 370); International Law and Organization (Pol. Sci. 375); and Senior Seminar in International Relations (Intl. Rel. 499).	9
2. Core courses (starred) chosen from three fields outside the departmental major.	14
3. Elective courses chosen from any field.	5

Requirements for a Minor:

In addition to a departmental major and 12 hours (or equivalent) of modern language the international relations minor requires 14 hours. The program is divided as follows:

	Hours
1. International Relations (Pol. Sci. 370)	3
2. Core courses (starred) chosen from two fields in addition to the departmental major	6
3. Elective courses chosen from any fields	5

Programs for the major or the minor must be approved by the student's international relations adviser.

FIELDS

Aerospace Studies		Hours
120	Concepts on the Defense of the United States	1
121	The U.S. Strategic Offensive and Defensive Forces	1
210	U.S. Combat Forces and the Free World	1
211	Aerospace Support Forces and the Struggle for Peace	1
310	Growth and Development of Aerospace Power	3
311	Astronautics and Space Operations	3

Anthropology

101	General Ethnology	3
105	Introduction to Social Anthropology	3
*111	Cultures of the World	3
*330	Peoples of Africa	3
*340	Peoples of the Middle East	3
*350	Peoples of South and East Asia	3
*432	Political and Legal Institutions	3
433	Economic Institutions	3

Economics

111	Introduction to Economic Principles and Problems	3
112	Introduction to Economic Principles and Problems	3
*241	Comparative Economic Systems	3
*334	Economic Development in Latin America	3
*358	International Trade and Finance	3
*430	Economic Development	3
*441	Advanced Comparative Economic Systems	3
*471	European Economic History	3
*535	Economic Problems of Asia	3

English

355	World Classics	3
356	World Classics	3
380	Twentieth-Century Literature	5

Geography

101	Introduction to Geography	3
*120	Geography and World Affairs	3
231	Economic Geography	3
401	Geography of Climates	2
405	Geography of Landforms	2
*441	Political Geography	3
*455	Latin America	3
*460	Europe	3
*470	Asia	3
*475	Africa	3
*480	Australia and New Zealand	2
*556	South America	2
*557	Caribbean Area	2
*561	Western Europe and the Mediterranean	2
*562	USSR and Its Satellites	2
*571	Problems of Asia	2
*580	Geography of Underdeveloped Areas	2

History

*323	Europe in the Twentieth Century	2
*329	The Austrian Empire and Eastern Europe	3
*331	The USSR and Eastern Europe	3
332	France	3
333	Modern Germany	3
340	Premodern Asia	3
*341	Modern Asia	3
344	Modern China	3
346	Modern Japan	3
347	India	3
*352	History of Latin America II	3
*379	Contemporary United States History	3
*384	U.S. Diplomatic History	3

Religious Education

453	World Religions	2
555	Comparative World Religions	2
556	Comparative World Religions	2

Communications

101	Introduction to Mass Communication	2
*580	Comparative World Communication Systems	2
*581	International Communication Problems	2

Language

Advanced courses in a modern language beyond the 16-hour bachelor requirement	5

Political Science

*170	International Relations	3
*250	Foreign and International Political Systems	3
*350	Political Systems of the USSR and Eastern Europe	3
*355	Political Systems of the United Kingdom and the Commonwealth	3
*359	Political Systems of Developing Areas	3
457	Government and History of Canada	3
525	The Military in Government and Politics	3
*538	International Project Administration	3
*549	Political System of France	3
*551	Political System of China	3
*552	Political System of Japan	3
*553	Political Systems of the Middle East	3
*556	Political Systems of South America	3
*557	Political Systems of Mexico and the Caribbean Area	3
*558	Political Systems of Southeast Asia	3
*570	Formulation of American Foreign Policy	3
*571	Contemporary U.S. Foreign Relations	3
*572	USSR Foreign Relations	3
*573	International Relations of Western Europe	3
*575	International Law	5
*576	Regional International Systems	3
*578	United States—Latin-American Relations	3
*580	International Relations of Asia	3

Psychology

111	General Psychology	3
*350	Introduction to Social Psychology (Sociol.-Psych.)	3
357	Group Relations and Leadership	3

Sociology

111	Introductory Sociology	3
*350	Introduction to Social Psychology (Sociol.-Psych.)	3
357	Group Relations and Leadership	3
410	Racial and Minority Group Relations	2
*417	Latin-American Social Change	3
423	Rural Sociology	3
*424	Rural Social Development in Latin America	3
449	Community Organization, Action, and Planning	2
470	Social Change	3
*501	Political Sociology	3
552	Personality: Culture and Society	3
560	The Family Institution	2
570	Class, Status, and Power	3

LANGUAGES

Foreign Language Study. The study of a foreign language is a unique educational experience. It is a means by which the student can participate in the inner life of another people and share their culture. Through the study of a foreign language, the student also comes to learn his own language better. The poet and philosopher Goethe said, "He who knows no other language, knows not his own."

The objectives of the courses in the departments of languages are as follows:

1. **General:** To teach the student to understand and to speak a language with facility and to develop skill in reading and writing. To provide a survey of foreign literatures and to acquaint the student with foreign cultures.
2. **Specific:** To prepare students for the teaching profession, government work at home and abroad, international trade, LDS missions in foreign countries, and research leading to advanced degrees.

Language Requirement for Graduation and Information for High School Graduates. Successful completion of a 201 language class or a more advanced class will fulfill the language requirement for graduation. High school graduates who have had two years of foreign language study may enroll for a 201 course in the language studied, or they may choose to begin with a 102 course. Those who have had one year of foreign language study in high school may enroll for a 102 course. A 201 course and a 102 course (or the equivalent of 102 in high school training) are required to fulfill the six- to eight-hour language requirement for graduation. Students who enroll for a 101 course may count these hours toward graduation, but a 101 course does not help fulfill the general education requirement. For further information or consultation, see the placement advisers for the language departments at registration time.

Library and Laboratory Facilities. The language departments have good library facilities and language laboratories permitting emphasis on the most modern language teaching techniques. The tape libraries contain some of the best dramatic and poetic works in the principal languages of the world.

Credit for Foreign Residence. Students who have had foreign residence may, with the consent of the language departments concerned, obtain a maximum of 12 to 16 hours of special foreign language credit. This may be done by successfully completing a more advanced course in the language and by passing an examination administered by the department. The credit is available upon payment of a special fee. Foreign students are not permitted to obtain credit in this way for their native language.

Major and Minor Requirements. Courses which fulfill the requirement for an undergraduate major or minor are listed under each separate language offering. Areas that generally serve as minors include a second foreign language, English, linguistics, humanities, one of the social sciences, or one of the fine arts.

Prospective Graduate Students. A reading knowledge of a second language is required of M.A. candidates. It is advisable to begin work on a second language no later than the junior year.

Graduate Assistantships. Graduate assistantships are available to language graduates whose undergraduate records, especially in languages, are unusually good. Applicants for assistantships must have an overall GPA of 3.0 or better and must have completed the following language courses: 326 (Phonetics and Pronunciation) and 377 (Secondary Teaching Procedures). The deadline for application is March 1.

Laboratory Assistantships. Well-qualified undergraduate majors may apply for laboratory assistantships. Priority will be given to those who have completed the 326 and 377 courses in their language specialty.

Classical and Asian Languages

Professor: J. Reuben Clark, III (chairman, 329 McK).
Assistant Professors: Phillips, Williams.
Instructors: Kitano, Lee, Mackay, Strong.

Degrees Offered. The Department of Classical and Asian Languages offers the Bachelor of Arts degree in Chinese, Greek, and Latin; the Master of Arts degree in Latin.

Classical Languages

The classical languages, Greek and Latin, are indispensable tools for prospective students in classics, biblical and early Christian studies, ancient history, Romance philology, and comparative literature. They are also strongly recommended for the study of linguistics and all literatures of the western world.

CLASSICAL CIVILIZATION

The following courses presuppose no knowledge of the Greek or Latin language and are open to all students. They are especially recommended for students who desire an understanding of the ancient tradition underlying modern literature in the western world.

Courses

341. Greek and Roman Mythology. (2:2:0) F.S.Su. (G-HA) Clark
Study of the Greek and Roman gods, goddesses, and myths.

441. Classical and Literary Traditions I: Greek Literature from Homer to the Alexandrian Period. (3:3:0) F. (G-HA) Phillips
A survey of the major Greek literary forms, including the epic, lyric, drama, history, philosophy, oratory, with emphasis on the origin and development of each tradition.

442. Classical Literary Traditions II: Roman Literature of the Republic and Early Roman Empire. (3:3:0) S. (G-HA) Clark, Phillips
A survey of the major Latin literary forms in the Graeco-Roman period, including comedy, lyric, epic, elegy, satire, oratory, and history.

443. Classical Literary Traditions III: Latin and Greek Literature in the Middle Ages. (3:3:0) F. Clark, Mackay
A survey of the influence of the classical heritage on medieval literature with emphasis on history, hagiography, epic, romance, theater, and patristic writings.

461. Greek Drama in English Translation. (2:2:0) S.Su. Phillips
A study of selected plays of Aeschylus, Sophocles, Euripides, Aristophanes, and Menander.

GREEK

The requirement for a major in Greek is 32 hours of course work which must include Greek 201, 301, 321, 322, 431, 432; Classical Civilization 441; either

Classical Civilization 341 or 461; and 7 hours from Greek 429, 441, 442, 490, or 491; also Grad. Relig. 612, 711, 712, or 713. The requirement for a departmental minor in Greek is 20 hours of course work in Greek beyond the first year.

Courses

101, 102. Elementary Greek. (4:4:0 ea.) F.S. (m) Phillips, Mackay

201. Intermediate Greek Reading and Composition. (4:4:1) F. (m) Mackay

301. Introduction to Greek Literature. (4:4:0) S. Prerequisite: Greek 201 or consent of instructor. Mackay

321, 322. Third-Year Grammar and Composition. (3:3:0) F.S. (m) Prerequisite: Greek 301 or equivalent. Phillips

Exercises in the composition of easy Greek prose correlated with readings in the Attic Orator.

429. Greek Stylistic and Literary Analysis. (3:3:0) S. (m) Prerequisite: Greek 322 or equivalent. Phillips

Exercises in criticism of Greek prose and poetry.

431, 432. Masterpieces of Greek Literature. (3:3:0) F.S. (G-HA m) Prerequisite: Greek 301 or equivalent. Phillips

Reading of major Greek authors, especially Homer and Herodotus.

441, 442. Survey of Greek Literature and Culture. (3:3:0) F.S. (G-HA m) Prerequisite: Greek 301. Phillips

A survey of Greek literature and culture from Homer to the Alexandrian period with lectures and readings.

490, 491. Individual Study in Greek. (1-3:Arr.:0 ea.) F.S. Prerequisite: Greek 322 or equivalent. Phillips

495. Senior Seminar for Majors. (2:2:0) F. Prerequisite: at least 3 hours of Greek literature, excluding Greek 301.

LATIN

The requirement for a major in Latin is 32 hours of course work which must include Latin 201, 301, 321, 322, 431, 432, 441, 442; Classical Civilization 341 and 442; and one course from Latin 429, 490, 491, 521, 561, or 562. A teaching major in Latin must also include Latin 377. The requirement for a departmental minor in Latin is 20 hours of course work in Latin beyond the first year. A teaching minor in Latin must also include Latin 377.

Courses

101, 102. First-Year Latin. (4:4:0 ea.) F.S.Su. (m) Clark, Mackay, Phillips

Designed for those who have had no Latin. Mastery of pronunciation, declensions, and conjugations. Correlation of Latin originals with English derivatives. Graded reading. Characteristics of Roman civilization.

111, 112. Beginning Latin—Accelerated. (4:4:0 ea.) F.S. Staff

201. Second-Year Latin. (4:4:0) F.Su. Home Study also. (m) Prerequisite: Latin 102 or three units of Latin in high school. Clark, Mackay, Phillips

Readings from Caesar, Livy, etc., with a review and continuation of grammar.

301. Introduction to Latin Literature. (4:4:0) S.Su. Home Study also. (m) Prerequisite: Latin 201. Clark, Mackay, Phillips

315. Prelegal Latin. (2:2:0) F. Prerequisite: consent of instructor. Clark

Recommended for prelegal students.

316. Elements of Technical and Scientific Terminology. (3:2:0) S. Prerequisite: consent of instructor. Clark, Phillips

Designed for premedical and predental students and students in the physical and natural sciences.

321, 322. Third-Year Grammar and Composition. (3:3:0 ea.) F.S. Prerequisite: Latin 301 or 112 or equivalent. Clark, Mackay

377. Secondary Teaching Procedures. (3:3:1) F.S.Su. Prerequisites: Tchr. Ed. 301 and Latin 322 or equivalent. Clark

Skills mastery, hearing, speaking, reading, writing, and identification of teacher-pupil activities required for conceptual learning. Lectures, demonstrations, and application of linguistic techniques to practical classroom requirements.

429. Latin Stylistic and Literary Analysis. (3:3:0) F.S. Prerequisite: Latin 322 or equivalent. Clark, Phillips

431, 432. Masterpieces of Latin Literature. (3:3:0 ea.) F.S. (G-HA m) Prerequisite: Latin 301 or 112 or equivalent or consent of instructor. Clark, Mackay, Phillips

441, 442. Survey of Latin Literature and Culture. (3:3:0 ea.) F.S. (G-HA) Conducted in English. Clark, Phillips

479. Secondary Student Teaching. (4-8:1:20-40) F.S. Prerequisites: Tchr. Ed. 301, Latin 321, 377. Clark

490, 491. Individual Study in Latin. (1-3:Arr.:0 ea.) F.S.Su. Staff

495. Senior Seminar for Majors. (2:2:0) F.S. Prerequisite: at least six hours of Latin literature (excluding 301). Clark, Mackay, Phillips

520. Advanced Composition and Grammar. (2:2:0) S. Prerequisite: Latin 322 or equivalent. Clark

521. Romance Philology. (2:2:0) F. Clark

561, 562. Elementary and Advanced Medieval Latin. (2:2:0 ea.) F.S. Prerequisite: Latin 301 or 112 or equivalent. Clark

661. Cicero. (3:3:0) F. Clark

665. The Latin Historians. (2:2:0) F. Clark

671. Virgil. (3:3:0) S. Clark

675. The Latin Poets. (3:3:0) F. Clark

Horace, Ovid, Lucretius, etc.

679. The Latin Dramatists. (3:3:0) S. Clark

Plautus, Terence, etc.

681, 682. The Latin Fathers. (3:3:0 ea.) F.S. Prerequisite: consent of instructor. Phillips

690, 691. Directed Readings. (1-2:Arr.:0 ea.) F.S.Su. Clark

Individual study on a graduate level.

692, 693. Seminar in Philology. (2:2:0 ea.) F.S. Clark

694, 695. Seminar in Literature. (2:2:0 ea.) S.Su. Clark

699. Thesis for Master's Degree. (6-9:Arr.:0) F.S.Su.

Asian Languages

The study of Chinese, Japanese, and other Asian languages is an exotic and challenging experience. It is indispensable for the student who wishes to participate in the inner life of the Asian peoples and appreciate their rich and unique cultures. It affords an excellent opportunity for students who wish to specialize in research, business, teaching, or the sciences.

ARABIC

Courses

101, 102. First-Year Arabic. (5:5:2 ea.) F.S. (m)
The modern spoken language. Designed for those who have had no Arabic.

201. Intermediate Arabic **Reading and Conversation.** (4:4:2) F. (m) Prerequisite: Arabic 102 or equivalent.

301. Introduction to Arabic Literature. (4:5:0) S. Prerequisite: Arabic 201 or equivalent.

CHINESE (MANDARIN)

The requirement for a major in Chinese is at least 32 hours beyond the first year as follows: 201, 211, 301, 311, 321, 322, 441 or 442, 443, 444, 445; and 2 additional hours in Chinese courses or an approved course in a related area. The requirement for a departmental minor in Chinese is at least 20 hours beyond the first year as follows: 201, 211, 301, 311, 321, 441 or 443, and 445.

Courses

101, 102. First-Year Chinese. (4:4:2 ea.) F.S. (m) Lee
Designed for those who have had no Chinese. Pronunciation, fundamentals of grammar. Chinese characters recognition (101) and writing (102). Special emphasis on conversation and building of a substantial vocabulary.

201. Second-Year Chinese. (4:4:1) F. (m) Prerequisite: Chinese 102. Lee
Reading, conversation, vocabulary building, special emphasis on writing of characters.

211. Second-Year Conversation. (2:2:0) F. Prerequisite: Chinese 102 or consent of instructor. Lee

301. Second-Year Chinese (Continued). (4:4:0) S. Prerequisite: Chinese 201 or consent of instructor. Lee
Continuous work of Chinese 201.

311. Third-Year Conversation. (2:2:0) S. Prerequisite: Chinese 301 or consent of instructor. Lee
Continuous work of Chinese 211. Play reading.

321, 322. Selected Readings and Composition. (3:3:0 ea.) F.S. Prerequisite: Chinese 301 or consent of instructor.
Introductory readings in modern literary Chinese with the emphasis on the writing of more analytical papers.

421, 422. Readings in Chinese Social Sciences. (3:3:0 ea.) F.S. Prerequisite: Chinese 322 or consent of instructor. Lee, Williams
Extensive reading of modern Chinese writings in history and the social sciences.

441, 442. Introduction to Classical Chinese. (4:4:0 ea.) F.S. Prerequisite: Chinese 322 or consent of instructor.
Intensive reading and interpretation of classical texts; introduction to syntax and patterns of classical Chinese prose and poetry.

443, 444. Modern Chinese Literature. (3:3:0 ea.) F.S. (G-HA m) Prerequisite: Chinese 301 or consent of instructor. Williams

445. Chinese Civilization. (3:3:0) S. (G-HA) Williams
Introduction to the institutions, culture, and fine arts of China.

490, 491. Individual Study in Chinese. (1-3:Arr.:0 ea.) Prerequisite: only open to those who have had Chinese 322 or consent of instructor.
Assignments made to fit the individual needs of the advanced student.

495. Senior Seminar for Majors. (2:2:0) F.S. Prerequisite: at least 6 hours of Chinese literature. Lee, Williams

HEBREW

Courses

101, 102. First-Year Hebrew. (4:4:2 ea.) F.S. (m)
A beginning course in modern Hebrew as spoken in Israel today.

201. Second-Year Hebrew. (4:4:2) F. (m) Prerequisite: Hebrew 101, 102, or equivalent acquaintance with Hebrew.

301. Selected Readings. (4:4:2) S. (m) Prerequisite: Hebrew 201 or equivalent acquaintance with Hebrew.

JAPANESE

Courses

101, 102. First-Year Japanese. (4:4:1 ea.) F.S. (m) Kitano
Constant study of the writing systems. Fundamentals of grammar and the building of a substantial vocabulary. Easy conversation and composition throughout.

201. Intermediate Reading and Conversation. (4:4:2) F. (m) Prerequisite: Japanese 102 or consent of instructor. Staff
Reading texts representative of various modern written styles. Further practice in composition, conversation, and grammar.

211. Second-Year Conversation. (2:2:0) F.S. Prerequisite: Japanese 102 or consent of instructor. Kitano

301. Introduction to Japanese Literature. (4:4:0) F.S. (m) Prerequisite: Japanese 201 or equivalent. Kitano
An introduction to basic literary concepts. Extensive readings from edited texts.

311. Third-Year Conversation. (2:2:0) F.S. Prerequisite: Japanese 301 or consent of instructor. Kitano

321. Third-Year Grammar and Composition. (3:3:0) F. Prerequisite: Japanese 301 or consent of instructor. Staff
Study of journalistic readings in Japanese.

322. Third-Year Grammar and Composition. (3:3:0) S. Prerequisite: Japanese 321 or consent of instructor. Staff
Study of scholarly writings in Japanese.

443, 444. Modern Japanese Literature. (3:3:0 ea.) F.S. Prerequisite: Japanese 321 or consent of instructor. Kitano

From the eighteenth century to the present.

490, 491. Individual Study in Japanese. (1-3:Arr.:0 ea.) F.S.Su. Assignments made to fit the individual needs of the advanced student. Staff

KOREAN

Courses

101, 102. First-Year Korean. (4:4:2 ea.) F.S.

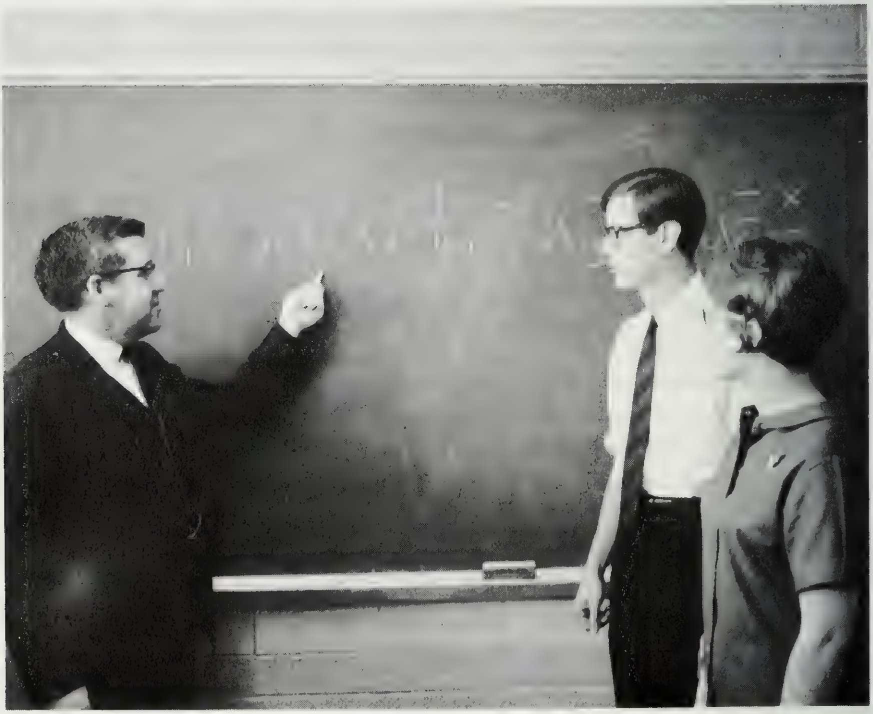
The modern spoken language. Designed for those who have had no Korean.

201. Intermediate Korean Reading and Conversation. (4:5:0) F.S. Prerequisite: Korean 102 or equivalent. Staff

301. Introduction to Korean Literature. (4:5:0) S. Prerequisite: Korean 201 or equivalent. Staff

SEMITICS

For Aramaic, Akkadian, Egyptian, Syriac, and Ugaritic languages see the section of this catalog entitled Department of Graduate Studies in Religious Instruction.



Students learn to scan Homer

French and Italian

Professors: Brown (chairman, 357 McK), Cummings (emeritus), Green, Lee.

Associate Professors: Ball, H. Clark.

Assistant Professors: Heudier, Slade, Smithson.

Instructors: Ashford, Jensen, Kimball, Lambert, Tarr.

FRENCH

Twenty-four hours of course work beyond the second year are required for a major: 321, 326, 401, 441, 442, 445, 495, plus a minimum of 7 additional hours to be chosen from the following courses: 429, 560, 565, 570, 575, 580, 585. Those showing serious deficiencies in grammar after having completed 321 will be required, in addition, to take 322. Majors who have not lived in French-speaking countries are strongly urged to participate in our Spring Semester French program in Grenoble, France.

Fourteen hours of course work beyond the second year are required for a departmental minor: 311, 321, 326, 440, and either 429 or 445.

Courses

95, 96. Beginning French for Graduate Students. (0:5:0 ea.) F.S.Su.

101, 102. First-Year French. (4:4:4 ea.) F.S.Su.
Designed for those who have had no French. Pronunciation, conversation, reading, fundamentals of grammar, and the building of a substantial vocabulary.

201. Intermediate French Reading and Conversation. (4:4:4) F.S.Su. Home Study also. (m) Prerequisite: French 102, two years of French in high school, or consent of instructor.

211. Second-Year Conversation. (2:2:2) F.S. Prerequisite: French 102 or consent of instructor. May be taken concurrently with 201.

301. Introduction to French Literature. (4:4:0) F.S.Su. Home Study also. (m) Prerequisite: French 201 or consent of instructor.
Extensive readings of intermediate and advanced texts.

311. Third-Year Conversation. (2:2:1) F.S.Su. Prerequisite: French 211 or consent of instructor. May be taken concurrently with 301.

321, 322. Third-Year Grammar and Composition. (3:3:2 ea.) F.S. Home Study also. Prerequisite: sixteen hours of French or equivalent.

326. French Phonetics and Pronunciation. (2:2:2) F.S. Prerequisite: French 301.

377. Secondary Teaching Procedures. (3:3:1) F.S. Prerequisites: Tchr. Ed. 301 and French 321 or equivalent as determined by adviser.

401. Bibliography and Research Techniques for Undergraduates. (1:1:0) F.S. Prerequisite: French 301 or consent of instructor.

411. Fourth-Year Conversation. (2:2:1) F.S. Prerequisite: French 311 or its equivalent as determined by adviser.

415, 416. Advanced Reading for Graduate Students. (3:3:0 ea.) Prerequisite: French 321.

Advanced reading in special fields for Ph.D. candidates who wish to complete their Ph.D. language requirements by intensive study of one language.

429. Introduction to Stylistic and Literary Analysis. (3:3:0) Prerequisite: French 321 or its equivalent.

Refinement of writing skills based on stylistic analysis and explication de textes. Intensive vocabulary building, fundamentals of semantics, grammatical problems.

440. Historical Survey of French Literature. (4:4:0) F.S. (G-HA) Prerequisite: French 301 or consent of instructor.

441, 442. Survey of French Literature and Culture. (3:3:0 ea.) F.S. (G-HA) Prerequisite: French 301 or consent of instructor.

General view of literary periods, movements, and social backgrounds with representative readings. It is recommended that 441 be taken before 442.

445. Introduction to French Civilization. (3:3:0) F.S. (G-HA) Prerequisite: French 301 or consent of instructor.

451. Survey of French Literature and Culture in the Americas. (2:2:0) Su. Prerequisite: French 301 or consent of instructor.

Origins to present time; Canada, United States, Central and South America.

479. Secondary Student Teaching. (4-8:0:20-40) F.S. Prerequisites: Tchr. Ed. 301, French 321, 377.

490, 491. Individual Study in French. (1-3:Arr.:Arr. ea.) F.S.Su.

Assignments are made to fit the individual needs of the advanced student.

492. French Readings (Honors). (1-2:1-2:0) F.S.Su. Prerequisite: French 301 or good reading knowledge of French.

495. Senior Seminar for Majors. (2:2:0) F.S. Prerequisite: French 479 for teaching majors; at least 6 hours of French literature beyond 301 for departmental majors.

520. French Composition and Grammar. (2:2:0)

521. Romance Philology. (3:3:0) R. Clark

522. History of French Language. (2:2:0) R. Clark

560. Old French Literature. (3:3:0) Slade

565. French Literature of the Renaissance. (2:2:0) Heudier, Slade

570. French Literature of the 17th Century. (2:2:0) Brown, Green

575. French Literature of the 18th Century. (2:2:0) H. Clark, Smithson

580. French Literature of the 19th Century. (3:3:0) Green, Lee, Smithson

585. French Literature of the 20th Century. (2:2:0) Ball, Lee

601. Bibliography and Research Techniques. (1:1:0)

629. Stylistics. (2:2:0) Smithson

Intensive linguistic and literary analysis of French, especially from modern writers: syntax, translation, advanced stylistic analysis and advanced explication de textes.

661A,B,C,D. Seminar in Medieval French Literature. (2:2:0 ea.) Slade

666A,B,C,D. Seminar in French Literature of the Renaissance. (2:2:0 ea.) Heudier, Slade

671A,B,C,D. Seminar in French Literature of the 17th Century. (2:2:0 ea.) Brown, Green

676A,B,C,D. Seminar in French Literature of the 18th Century. (2:2:0 ea.) H. Clark, Smithson

681. French Drama of the 19th Century. (2:2:0) H. Clark, Green, Lee, Smithson

682, 683. French Novel of the 19th Century I, II. (2:2:0 ea.) H. Clark, Green, Smithson

684A,B,C,D. Seminar in French Literature of the 19th Century. (2:2:0 ea.) H. Clark, Green, Lee, Smithson

686A,B,C,D. Seminar in French Literature of the 20th Century. (2:2:0 ea.) Ball, Lee

687, 688. Modern French Novel I, II. (2:2:0 ea.) Ball, Lee

689. Modern French Drama. (2:2:0) Ball, Lee

690, 691. Directed Readings. (1-2:Arr.:Arr. ea.) Prerequisite: consent of instructor.

Individual study on a graduate level, to fit the needs of the graduate student.

692A,B,C,D. Seminar in Philology. (1-2:1-2:0 ea.) R. Clark

695A,B,C,D. Seminar in French Literature. (2:2:0 ea.)

699. Thesis for Master's Degree. (6-9:Arr.:Arr.)

721. Romance Dialects. (3:3:0) R. Clark

723. Old French Phonology and Morphology. (2:2:0) R. Clark

760A,B. Seminar in Medieval French Literature. (2:2:0 ea.) Slade

765A,B. Seminar in French Literature of the Renaissance. (2:2:0 ea.) Heudier, Slade

770A,B. Seminar in French Literature of the 17th Century. (2:2:0 ea.) Brown, Green

775A,B. Seminar in French Literature of the 18th Century. (2:2:0 ea.) H. Clark, Smithson

780A,B. Seminar in French Literature of the 19th Century. (2:2:0 ea.) H. Clark, Green, Smithson

785A,B. Seminar in French Literature of the 20th Century. (2:2:0 ea.) Ball, Lee

790, 791. Directed Readings. (1-2:Arr.:0 ea.) F.S.Su. Prerequisite: consent of instructor and chairman of committee.

792A,B,C,D. Seminar in Philology. (2:2:0 ea.) R. Clark

799. Dissertation for the Ph.D. Degree. (1-6:Arr.:0) TBA

ITALIAN

A major in Italian is not offered. The departmental minor is 14 hours beyond the second year as follows: 311, 321, 322, 441, 442.

Courses

101, 102. First-Year Italian. (4:4:1 ea.) F.S. Staff

Special attention to accurate pronunciation for benefit of students of music and art for whom Italian has special interest and value. Grammar and graded reading.

201. Intermediate Italian Reading and Conversation. (4:4:0) F. Prerequisite: Italian 102 or two units of Italian in high school. Staff

211. Second-Year Conversation. (2:2:2) F.S. Prerequisite: Italian 102 or consent of instructor. May be taken concurrently with 201.

301. Introduction to Italian Literature. (4:4:0) S. Prerequisite: Italian 201 or consent of instructor. Staff

Extensive reading of intermediate texts.

311. Third-Year Conversation. (2:2:2) F.S. Prerequisite: Italian 211 or consent of instructor. May be taken concurrently with 301.

321, 322. Third-Year Grammar and Composition. (3:3:0 ea.) F.S. Prerequisite: Italian 301 or equivalent. Staff

441, 442. Survey of Italian Literature and Culture. (3:3:0 ea.) F.S. (G-HA) Prerequisite: Italian 301 or consent of instructor.

General view of literary periods, movements, and social backgrounds with representative readings. It is recommended that 441 be taken before 442.

490, 491. Individual Study in Italian. (1-3:Arr.:Arr. ea.) F.S. Staff

Assignments made to fit the individual needs of the advanced student.

Language laboratory instruction

Germanic and Slavic Languages

Professors:	Rogers (chairman, 326 McK), Watkins.
Associate Professors:	Davis, Folsom, Kelling, Smith, Speidel.
Assistant Professors:	Allen, Baker, Britsch, Gubler, Harris, Luckau, Roos, Tate.
Instructor:	Lysenko.
Special Instructor:	Tuckett

Degrees Offered. The Department of Germanic and Slavic Languages offers the Bachelor of Arts degree in German and Russian. The Master of Arts degree and the Doctor of Philosophy degree are offered in German. Graduate students may select courses which give special emphasis to language, literature, or foreign language teaching. (See the Graduate School Catalog for more information regarding graduate studies.)

Semester in Salzburg. German majors and minors who have not had residence experience in the German-speaking countries are encouraged to participate in the annual University-sponsored semester in Salzburg, Austria. This program provides excellent opportunities for developing language proficiency and becoming better acquainted with the history and cultural achievements of Europe.

DANISH

Courses

301. Introduction to Danish Literature. (4:4:0) F.S. (m) Prerequisite: consent of instructor. Harris, Watkins

Readings from the best Danish literature. An introduction to basic literary concepts.

DUTCH

Courses

301. Introduction to Dutch Literature. (4:4:0) F.S. (m) Prerequisite: consent of instructor. Tate

Readings from the best Dutch literature. An introduction to basic literary concepts.

GERMAN

Major Requirements: 29 hours of German courses beyond 201 as follows: 301, 321, 322, 326, 429 or 441, 442, 443, 444, 445, 495. Majors who have not had foreign residence experience or have not participated in the semester in Salzburg are expected to take German 211 and 311. Teaching majors and applicants for graduate assistantships must enroll for German 377. Students who plan to do graduate work in German will find the following courses most helpful: Linguistics 325, English 251 (Fundamentals of Literature) or 450 (The Criticism and Appreciation of Literature), History 333 (Modern Germany), Philosophy 380 (Survey of Philosophy) or 471 (History of Modern Philosophy).

Minor Requirements: 20 hours beyond German 201 as follows: 211, 301, 311, 321, 322, 326, 440. Teaching minors will substitute 377 for 322.

(See the Teacher Education Section for more explicit information regarding the teaching major and minor in German.)

Courses

95, 96. Beginning German for Graduate Students. (0:5:0 ea.) F.S.Su. Evening Classes only.

101, 102. First-Year German. (4:4:4 ea.) F.S.Su. (m)
Designed for those who have not had German. Pronunciation, reading, fundamentals of grammar. Special emphasis on conversation and the building of a substantial vocabulary.

201. Intermediate German Reading and Conversation. (4:4:1) F.S.Su. Home Study also. (m) Prerequisite: German 102 or three units of German in high school or consent of instructor.
Reading, review of grammar, conversation, vocabulary building.

211. Second-Year Conversation. (2:2:1) F.S. (m) Prerequisite: German 201 or consent of instructor.

301. Introduction to German Literature. (4:4:0) F.S.Su. Home Study also. (m) Prerequisite: German 201 or equivalent.
Extensive readings from the literatures of the language, using graded texts. An introduction to basic literary concepts.

311. Third-Year Conversation. (2:2:1) F.S. (m) Prerequisite: German 301 or consent of instructor.

321. Third-Year Grammar and Composition. (3:3:0) F.S. (m) Home Study also. Prerequisite: 16 hours of college German or equivalent.
Intended for those students who want to understand and master more than just the fundamental principles of the German language. Intensive drills in grammar, written and oral reports on given subjects.

322. Third-Year Grammar and Composition. (3:3:0) F.S. Home Study also. Prerequisite: German 321.
Intended to help the advanced student of German in thinking and writing German intelligibly by becoming more familiar with a large number of idioms and synonyms. Introduction to the terminology and fundamentals of German literary analysis and criticism. Emphasis on matters of style rather than on grammar.

326. German Phonetics and Pronunciation. (2:2:1) F.S. (m) Prerequisite: German 301. Folsom, Luckau

377. Secondary Teaching Procedures. (3:3:1) F.S. Prerequisite: Tchr. Ed. 301 (only for those who plan to certify) and German 321 or equivalent. Luckau
Skills mastery, hearing, speaking, reading, writing and identification of teacher-pupil activities required for conceptual learning. Lectures, demonstrations, and application of linguistic techniques to practical classroom requirements.

411. Fourth-Year Conversation. (2:2:1) F.S. Prerequisite: German 321 or consent of instructor.

415, 416. Advanced Reading for Graduate Students. (3:3:0 ea.) Prerequisite: German 321. Smith
Advanced reading and translation in the special field of the graduate student who wishes to complete his language requirement by intensive study of one language.

429. The Structure of German. (3:3:0) S. Prerequisite: German 322. Folsom

440. Survey of German Literature and Culture. (4:4:0) F.S. (G-HA m) Prerequisite: German 301 or equivalent. Allen, Davis, Kelling
General survey of German literature and culture from the beginning to the present with representative readings. **For minors only.**

441. German Literature from the Beginning to 1700. (3:3:0) F.S. (G-HA m) Prerequisite: German 301 or equivalent. Baker, Folsom, Roos, Watkins

442. **German Literature in the 18th Century.** (3:3:0) F.S. (G-HA m) Prerequisite: German 301 or equivalent. Davis, Kelling, Rogers

443. **German Literature in the 19th Century.** (3:3:0) F.S. (G-HA m) Home Study also. Prerequisite: German 301 or equivalent. Allen, Baker, Speidel

444. **German Literature in the 20th Century.** (3:3:0) F.S. (G-HA m) Prerequisite: German 301 or equivalent. Kelling, Rogers, Smith

445. **Cultural History of Germany.** (3:3:0) F.S. (G-HA m) Britsch, Kelling, Watkins

479. **Secondary Student Teaching. (4-8:0:20-40) F.S. Prerequisites: Tchr. Ed.** 301, German 321 and 377. Luckau

490, 491. **Individual Study in German. (1-3:Arr.:Arr. ea.) F.S.Su.**

Assignments are made to fit the individual needs of the advanced student.

492. **German Readings (Honors). (1-2:1-2:0)** F.S.Su. Prerequisite: German 301 or good reading knowledge of German.

495. **Senior Seminar for Majors.** (2:2:0) F.S. Prerequisite: at least 6 hours of German literature (excluding 301). Two sections: one for teaching majors and one for prospective graduate students. Luckau, Smith

520. **Advanced German Composition and Grammar.** (2:2:0) S.Su. Prerequisites: German 321 and 322 or consent of instructor.

601. **Bibliography and Research Techniques.** (2:2:0) F. Allen, Davis, Kelling

620. **History of the German Language.** (2:2:0) S. Prerequisite: three years of college German or its equivalent. Folsom, Watkins

622. **Gothic.** (3:3:0) F. Folsom, Watkins

623. **Old High German and Old Saxon.** (3:3:0) S. Folsom, Watkins

628, 629. **Middle High German I, II. (3:3:0 ea.) F.S. Folsom, Watkins**

670. **German Baroque Literature.** (2:2:0) Allen, Davis, Roos

681. **German Romanticism.** (2:2:0) Arr. Speidel

683. **German Realism.** (2:2:0) Arr. Allen, Baker

690, 691. **Directed Readings. (2:Arr.:0 ea.) F.S.Su.**

692, 693. **Seminar in Philology.** (2:2:0 ea.) F.S.Su.

Special problems and topics of relevance in German philology. Topics and instructors to be announced.

694, 695. **Seminar in Literature.** (2:2:0 ea.) F.S.Su.

Intensive analysis of a particular writer, a major work or a limited theme. Training in independent literary research. Topic and professor change each semester.

699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.

741. **German Lyric Poetry.** (2:2:0) F.S. Allen, Britsch, Kelling

742. **The German Drama to 1880.** (2:2:0) F. Allen, Rogers

743. **The German Drama from 1880 to Present.** (2:2:0) S. Britsch, Rogers

744. **The German Novel to 1880.** (2:2:0) F. Baker, Speidel

745. **The German Novel from 1880 to Present.** (2:2:0) S. Smith, Speidel

746. **The German Short Story.** (2:2:0) S. Smith

776. Lessing. (2:2:0) F. Davis, Rogers

777. Schiller. (2:2:0) S. Davis, Smith

778. Goethe. (2:2:0) F. Allen, Kelling

790, 791. Directed Readings. (1-2:Arr.:0 ea.) F.S.Su.

792, 793. Seminar in Philology. (2:2:0 ea.) S.Su.
Advanced investigation and analysis of special problems and topics in Germanic philology. Topics and professors will vary.

794, 795. Seminar in Literature. (2:2:0 ea.) S.Su.
Advanced research and analysis of a limited theme or particular writer. Subject will vary. Topic and professor to be announced.

799. Dissertation for the Ph.D. Degree. (Arr.) F.S.Su.

NORWEGIAN

Courses

101, 102. First-Year Norwegian. (4:4:2 ea.) F.S. Harris, Watkins
Designed for those who have had no Norwegian.

201. Intermediate Norwegian Reading and Conversation. (4:4:1) F.S. Prerequisite: Norwegian 102 or consent of instructor. Harris, Watkins

301. Introduction to Norwegian Literature. (4:4:0) F.S. (m) Prerequisite: consent of instructor. Harris, Watkins
Readings from the best Norwegian literature. An introduction to basic literary concepts.

490, 491. Individual Study in Norwegian. (1-3:Arr.:Arr. ea.) F.S.Su. Harris, Watkins
Assignments are made to fit the individual needs of the advanced student.

RUSSIAN

The following courses are required for the major in Russian: 201, 211, 301, 311, 312, 321, 322, 326, 441, 442, 445. For the minor 201, 211, 301, 311, 321, 326, and 445 are required. Linguistics 325 is strongly recommended, and Russian 377 is required for either the teaching major or minor, in addition to the courses listed above.

Courses

101, 102. First-Year Russian Grammar and Composition. (5:5:3 ea.) F.S.Su. (m)

201. Intermediate Russian Reading and Conversation. (5:5:3) F.S.Su. (m) Prerequisite: Russian 102 or consent of instructor, based on prior Russian language experience.
Designed for those who have had Russian. Pronunciation and conversation.

211. Second-Year Conversation. (2:2:2) F.S. (m) Prerequisite: Russian 201 or consent of instructor.

301. Introduction to Russian Literature. (3:3:0) F.S. (m) Prerequisite: Russian 201 or consent of instructor. To be taken with Russian 211.

311, 312. Third-Year Conversation. (2:2:1 ea.) F.S. (m) Prerequisite: Russian 301 or consent of instructor.

321, 322. Third-Year Grammar and Composition. (3:3:0 ea.) F.S. (m) Prerequisite: Russian 301 or equivalent. Gubler, Lysenko, Tuckett

326. Russian Phonetics and Pronunciation. (2:2:1) F. (m) Prerequisite: Russian 301 or consent of instructor. Gubler

377. Secondary Teaching Procedures. (3:3:1) F.S. Prerequisite: Tchr. Ed. 301 and Russian 322 or equivalent.

Skills mastery, hearing, speaking, reading, writing, and identification of teacher-pupil activities required for conceptual learning. Lectures, demonstrations and application of lingual techniques to practical classroom requirements.

385, 386. Scientific Russian. (2:2:0 ea.) F.S. Evening classes only. Prerequisites: one year of college Russian or equivalent. Lysenko

441, 442. Survey of Russian Literature. (3:3:0 ea.) F.S. (G-HA) Prerequisite: Russian 322 or equivalent. Gubler, Lysenko, Tuckett

445. Cultural History of Russia. (3:3:0) S. (G-HA m) Prerequisite: Russian 301 or equivalent. Lysenko, Tuckett

479. Secondary Student Teaching. (4-8:1:20-40) F.S. Prerequisites: Tchr. Ed. 301, Russian 321 and 377.

490, 491. Individual Study in Russian. (1-2:Arr.:Arr. ea.) F.S.Su.

Assignments made to fit the needs of the advanced student.

SWEDISH

Courses

301. Introduction to Swedish Literature. (4:4:0) F.S. (m) Prerequisite: consent of instructor. Harris, Watkins

Readings from the best Swedish literature. An introduction to basic literary concepts.

Student in language laboratory

Spanish and Portuguese

Professors: de Jong, Gibson (chairman, 303 McK), Hansen, Wilkins.

Associate Professors: Anderson, Compton, Moon, Rosen.

Assistant Professors: Ashworth, Brown, Hall, Shreeve, Taylor.

Degrees Offered

The Department of Spanish and Portuguese offers the Bachelor of Arts and Master of Arts degrees in Portuguese and Spanish, and the Doctor of Philosophy degree in Spanish. For graduate-degree requirements, see the Graduate School Catalog.

Foreign Residence Programs

The department cosponsors summer residence programs in Mexico and semester programs in Spain. Spanish majors and minors who have not had foreign residence experience are encouraged to participate in these programs, as they provide excellent opportunities for development of language proficiency.

Prospective Graduate Students

Prospective graduate students are reminded that a second, and sometimes a third, language will be required of them in graduate school. It is advisable that work in at least one other language be started before the junior year.

PORTUGUESE

The requirement for a major is 24 hours of upper-division courses beyond the second year which must include the following: Portuguese 321, 322, 431, 432, 521, 552, 553 (or equivalents). The remaining hours are to be taken from advanced Portuguese classes or Linguistics 325.

The requirement for a departmental minor is 12 hours of upper-division courses. which must include Portuguese 321, 322, 431, and 432 or 445.

Courses

101, 102. First-Year Portuguese. (4:4:1 ea.) F.S. (m)
A beginning course. Pronunciation, conversation, reading, and fundamentals of grammar. Special attention to Portuguese as the language of Brazil.

201. Intermediate Portuguese Reading and Conversation. (4:4:0) F. Home Study also. (m) Prerequisite: Portuguese 102 or three units of Portuguese in high school.

301. Intermediate Conversation, Reading and Writing. (4:5:0) S. Home Study also. (m) Prerequisite: Portuguese 201.
Extensive readings in intermediate edited texts, and controlled composition.

321, 322. Third-Year Grammar and Composition. (3:3:0 ea.) F.S. Prerequisites: Portuguese 301; 16 hours of Portuguese or the equivalent. de Jong

431, 432. Survey of Brazilian Literature I, II. (3:3:0 ea.) F.S. Home Study also. (G-HA) Prerequisite: Portuguese 301 or consent of instructor.
Compton, de Jong

445. Iberian and Ibero-American Civilization. (3:3:0) F.S.Su. (G-HA) Prerequisite: Portuguese 301 or the equivalent. Gibson

490, 491. Individual Study in Portuguese. (1-3:Arr.:Arr. ea.) F.S.Su. de Jong

521. Romance Philology. (3:3:0) F. Clark

522. History of the Portuguese Language. (2:2:0) Gibson

552. Machado de Assis. (2:2:0) F. Prerequisites: Portuguese 431 and 432 or equivalent.

553. O Modernismo. (2:2:0) S. Prerequisites: Portuguese 431 and 432 or equivalent.

The modern movement in Brazilian literature (1920-1945).

620, 621. Portuguese Composition. (3:3:0 ea.) F.S. de Jong

641. Introduction to Portuguese Literature. (3:3:0) F.S. de Jong

642. Contemporary Portuguese Literature. (3:3:0) S. de Jong

650. Brazilian Literature. (3:3:0) F.S. de Jong

651. Contemporary Brazilian Literature. (3:3:0) S. de Jong

690. Directed Readings. (1-2:0:Arr.) F.S.Su.

692. Seminar in Philology. (2:2:0) F.S. de Jong

694, 695. Seminar in Literature. (2:2:0 ea.) S.Su.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.

SPANISH

The requirement for a major in Spanish is 24 hours of upper-division courses beyond the second year, which must include Spanish 321, 322, 441, 451. The additional 10 hours are to be taken from other advanced Spanish offerings beyond 322 or Ling. 325.

The requirement for a departmental minor is 12 hours of upper-division courses beyond the second year, including Spanish 321, 326, 441 or 451, 445 or 351. (For requirements for a teaching major or minor see Teacher Education.) Spanish 326 and 377 are required for a graduate teaching assistantship.

Courses

95, 96. Beginning Spanish for Graduate Students. (0:5:0 ea.) F.S.Su. Evening Classes only.

101, 102. First-Year Spanish. (4:4:4: ea.) F.S.Su. (m)

An audio-lingual approach emphasizing pattern practice and common grammatical structures.

201. Intermediate Spanish Reading and Conversation. (4:4:1) F.S.Su. Home Study also. (m) Prerequisite: Spanish 102 or three units of high school Spanish or consent of instructor.

211. Second-Year Conversation. (2:2:Arr.) F.S.Su. Prerequisite: Spanish 102 or consent of instructor.

301. Introduction to Spanish Literature. (4:5:0) F.S.Su. Home Study also. (m) Prerequisite: Spanish 201 or equivalent.

311. Third-Year Conversation. (2:2:1) F.S.Su. Prerequisite: Spanish 301 or consent of instructor.

321, 322. Third-Year Grammar and Composition. (3:3:0 ea.) F.S. Home Study also. (m) Prerequisite: Spanish 301 or equivalent.

326. Spanish Phonetics and Pronunciation. (2:2:2) F.S. (m) Anderson, Brown, Hall

351. Hispanic Civilizations. (2:2:0) F.S.Su. (G-HA) (Offered only in foreign residence programs.)

377. Secondary Teaching Procedures. (3:3:1) (Education credit only) F.S.Su. Prerequisites: Tchr. Ed. 301 and Spanish 322 or equivalent. Taylor

Skills mastery, hearing, speaking, reading, writing, and identification of teacher-pupil activities required for conceptual learning. Lectures, demonstrations and application of linguistic techniques to practical classroom requirements.

441. Survey of Spanish Literature. (4:4:0) F.S.Su. (G-HA m) Home Study also. Prerequisite: Spanish 301 or consent of instructor. This course is a prerequisite to all Spanish peninsular literature classes.
Anderson, Ashworth, Gibson, Hansen, Moon, Rosen

445. The Culture of the Hispanic World. (3:3:0) F.S.Su. (G-HA m) Prerequisite: Spanish 301 or consent of instructor. Gibson

451. Survey of Hispanic-American Literature. (4:4:0) F.S.Su. (G-HA m) Home Study also. Prerequisite: Spanish 301 or consent of instructor. (Spanish 441 strongly recommended.) This course is a prerequisite to all other Spanish-American literature courses. Brown, Compton, Shreeve

454. Hispanic-American Novel. (3:3:0) F.S. Prerequisite: Spanish 451 or consent of instructor. Brown, Compton

458. Hispanic-American Short Story. (3:3:0) S. (G-HA) Prerequisite: Spanish 451 or consent of instructor. Brown, Compton

An introduction to the short story and its development as an important literary genre in Spanish America, with principal authors.

470. The Narrative of the Golden Age. (3:3:0) F.S. (G-HA) Prerequisite: Spanish 441 or consent of instructor. Moon, Gibson, Rosen

479. Secondary Student Teaching. (4-8:0:20-40) F.S. Prerequisites: Tchr. Ed. 301, Spanish 301 and 377. Taylor

485. Introduction to Contemporary Spanish Literature. (3:3:0) F.S. (G-HA) Prerequisite: Spanish 441 or consent of instructor. Anderson, Moon

490, 491. Individual Study in Spanish. (1-3:Arr.:Arr. ea.) F.S.Su.

Assignments are made to fit the individual needs of the advanced student. By permission only.

492. Spanish Readings (Honors). (1-2:1-2:0) F.S.Su. Prerequisite: Spanish 301 or good reading knowledge of Spanish.

495. Senior Seminar for Majors. (2:2:0) F.S. Prerequisite: at least six hours of Spanish literature.

520. Advanced Spanish Composition and Grammar. (2:2:0) F.S.Su.

521. Romance Philology. (3:3:0) F. Clark

522. History of the Spanish Language. (2:2:0) S. Gibson

556. Hispanic-American Poetry. (3:3:0) F.S. Compton

580. Nineteenth-Century Spanish Drama and Poetry. (3:3:0) F.S. Prerequisite: Spanish 441 or consent of instructor. Ashworth, Gibson

581. The Nineteenth-Century Spanish Novel. (3:3:0) F.S. Prerequisite: Spanish 441 or consent of instructor. Ashworth, Gibson

584. Generation of '98. (3:3:0) F.S. Anderson, Moon

601. Bibliography and Research Techniques. (2:2:0) F.

653. Hispanic-American Drama. (2:2:0) F.S. Compton, Hansen

654. The Spanish-American Novel: Beginnings. (2:2:0) F.S. Compton, Hansen

655. The Spanish-American Novel: Contemporary. (2:2:0) F.S. Compton, Hansen

656. The Modernista Movement. (2:2:0) S. Compton

657. Hispanic-American Essay. (2:2:0) F.

658. Hispanic-American Short Story. (2:2:0) F.S. Compton

660. Spanish Medieval Literature. (2:2:0) F. Gibson

670. Golden-Age Drama. (2:2:0) F.S. Compton, Gibson, Moon

671. Golden-Age Prose. (2:2:0) F.S. Compton, Gibson, Moon

672. Golden-Age Poetry. (nondramatic) (2:2:0) F.S. Compton, Gibson, Moon

685, 686. Twentieth-Century Literature. (2:2:0 ea.) F.S. Ashworth, Moon

690, 691. Directed Readings. (1-2:Arr.:Arr. ea.) F.S.Su. Prerequisite: consent of instructor.

Individual study on a graduate level, to fit the needs of the graduate student.

692. Seminar in Philology. (2:2:0) F.S.Su. Clark

694, 695. Seminar in Spanish Literature. (2:2:0 ea.) F.S.Su.

699. Thesis for Master's Degree. (6:Arr.:Arr.) F.S.Su.

721. Romance Dialects. (3:3:0) F. Clark

741. The Spanish Poetic Tradition. (2:2:0) F.

742. The Development of Spanish Drama. (2:2:0) S.

744. Spanish Novelistic Prose. (2:2:0) F.

773. Cervantes. (2:2:0) S.

774. Lope de Vega. (2:2:0) F.

790, 791. Directed Readings. (1-2:Arr.:0 ea.) F.S.Su.

792, 793. Seminar in Philology. (2:2:0 ea.) F.S.

794, 795. Seminar in Literature. (2:2:0 ea.) F.S.

799. Dissertation for the Ph.D. Degree. (Arr.) F.S.Su.

Latin-American Studies

Associate Professor: Wesley W. Craig, Jr. (coordinator, 1216-B SFLC).

The Latin-American Studies Program is an interdepartmental and intercollege area program, which, in combination with a major in one of the departments of the University, leads to a B.A. degree. The Latin-American program provides either a concurrent major or a minor to accompany the departmental major. The program is designed to meet the professional and cultural goals of persons especially interested in Latin America, whose needs are not fully served by a major in one department. The Department of Spanish and Portuguese offers training in the languages and literatures of Latin America; the Political Science Department, the governments and political institutions, and so forth. Those who seek employment in business or governmental agencies in Latin America, or who for other reasons are interested in the area, may best prepare themselves professionally by broad study in the languages, literatures, culture, geography, politics, history, society, and economy of the region. The Latin-American Studies Program is designed to fill these requirements. Students interested in Latin America who plan to do graduate study or to teach will find their needs met by the double major program, which combines the advantages found in the breadth of a comprehensive understanding of an area with those to be had in the depth through a major in a single discipline.

Requirements for a concurrent major (no minor required):

1. A major in one of the departments of the University.
2. Proficiency in the Spanish or Portuguese language, determined by examination (equivalent to successful completion of Spanish 321 or Portuguese 321).
3. A total of 28 hours in courses dealing with Latin America of which the following core courses are required:

[1]Economics 334. Economic Development in Latin America	3
Geography 455. Latin America	3
History 352. History of Latin America II	3
Either:	
[2]Political Science 556. Political Systems of South America	
or	
557. Political Systems of Mexico and the Caribbean Area	3
[3]Sociology 417. Latin-American Social Change	3
Either:	
[4]Spanish 451. Survey of Hispanic-American Literature	4
or	
[5]Portuguese 431. Survey of Brazilian Literature I	3

4. Additional area courses to make a total of 28 hours.
5. No courses taken to fill the Latin-American studies major will be counted toward the departmental major.

Requirements for a minor:

A total of 14 hours (in addition to the first two years of college Portuguese or Spanish, or the equivalent) from the list of approved area courses; at least 9 of the 14 hours are to be from the core courses outlined above. No course may count toward both the major and the minor. The coordinator may approve satisfactory equivalents, in consultation with the departments. However, in no case shall the requirements be less than those stated above.

Following are the additional area courses in the program:

Anthropology

318.	Native Peoples of Middle America	2
319.	Native Peoples of South America	2

Archaeology

355.	Archaeology of Middle America	2
365.	Archaeology of South America	2
375.	Archaeology of North America	2

Geography

556.	South America	2
557.	Caribbean Area	2

History

334.	Spain	3
351.	History of Latin America I	3
453.	Mexico and the Caribbean	3

Linguistics

101B.	Mayan Cakchiquel	4

Political Science

578.	U.S.—Latin-American Relations	3

Portuguese

321, 322.	Third-Year Grammar and Composition	3 ea.
432.	Survey of Brazilian Literature II	3

Sociology

424.	Rural Social Development in Latin America	3

Spanish

321, 322.	Third-Year Grammar and Composition	3 ea.
441.	Survey of Spanish Literature	4
445.	The Culture of the Hispanic World	3
454.	Hispanic-American Novel	3
458.	Hispanic-American Short Story	3
556.	Hispanic-American Poetry	3

[1] Prerequisite: Econ. 111 or 112.
[2] Prerequisites: Pol. Sci. 250. Recommended: Pol. Sci. 359.
[3] Prerequisite: either Sociol. 111 or 112.
[4] Prerequisite: Spanish 301 or consent of instructor.
[5] Prerequisite: Portuguese 301 or consent of instructor.

Law Enforcement

Assistant Professor: Charles T. Fletcher (coordinator, 362 McK).

The Law Enforcement Program is designed to train students for careers in law enforcement. The training offered will equip students with the background and technical skills necessary to qualify them for employment with federal, state, local, industrial-institutional, and private law enforcement agencies. The need for this type of trained personnel is critical in our nation today. The aim of the program is to produce law enforcement personnel who possess high-level technical skills, an understanding of the forces at work in society, skill in human relations, and the ability to adapt to the rapid changes of modern living.

Degrees are offered at the associate, bachelor's, and master's levels.

Associate Degree in Law Enforcement

The associate-degree program is administered by the Technical Institute of the College of Industrial and Technical Education. This degree is earned upon the completion of a two-year curriculum consisting of approximately 50 percent general education courses and 50 percent specialized courses in law enforcement and closely related subjects. Students desiring to obtain this degree should enroll in the Technical Institute of the College of Industrial and Technical Education. For further details regarding the associate-degree program see the Technical Institute Section.

Bachelor's Degree in Law Enforcement

Students majoring in law enforcement are required to complete 30 credit hours of study chosen from the following courses in consultation with their adviser:

Required Courses:
- Law Enf. 101, 102, 301, 302
- Health 121 or equivalent
- Pol. Sci. 311, 330
- Psych. 111 or 350
- Sociol. 112, 380

Elective Courses:
- Law Enf. 501, 502
- Econ. 111, 112
- Geog. 211
- Health 460
- Physics 177
- Pol. Sci. 360, 361 (531, 532, 533, 537 available for advanced study)
- Psych. 440
- Sociol. 111, 383, 386, 389 (590, 591 available for advanced study)
- Speech and Dram. Arts 102

Requirements for a Minor for Law Enforcement Majors

In fulfilling their minor requirements, students majoring in law enforcement must complete twenty credit hours selected from courses offered in one of the following departments: Political Science, Psychology, or Sociology. If special circumstances exist, approval may be given to choose a minor within a department other than these three departments. The credit hours used in fulfilling the minor requirement cannot be counted twice with those used in fulfilling the major requirements. As an alternative to these minor requirements students may select a concurrent major within one of the following departments: Political Science, Psychology, or Sociology. If this alternative is chosen, credit hours used to fulfill the requirements in the concurrent major may be counted twice with those used to fulfill the requirements for a major in law enforcement. The courses selected to complete the minor requirements or the concurrnt major requirements should be chosen in consultation with the adviser and with the chairman of the chosen minor or concurrent major department.

Requirements for a Minor in Law Enforcement

For a student minoring in law enforcement 20 hours of study distributed as follows are recommended:

Required Courses:
  Law Enf. 101, 102, 301, and 302
Elective Courses
  Law Enf. 501 and 502
  Pol. Sci. 330, 361
  Health 121 and 460
  Sociol. 380, 383, and 386

Master's Degree

The master's-degree program is administered by the Institute of Government Service in cooperation with the Graduate School. For further details and requirements, see the Graduate School Catalog or contact Dr. Stewart L. Grow, Director, Institute of Government Service, 285 Maeser Building.

Courses

101. Introduction to Law Enforcement I. (3:3:0) F.S. (m) Fletcher

The role of law enforcement; basic procedures and problems; development of professional attitudes and ethics; organization and jurisdiction of local, state, and federal agencies.

102. Introduction to Law Enforcement II. (3:3:0) S. (m) Prerequisite: Law Enf. 101. Fletcher

Fundamental law enforcement techniques; basic patrol procedures; preliminary criminal investigations; identification and description; protective weapons and restraining devices.

301. Advanced Law Enforcement I. (3:3:0) F. (m) Prerequisites: Law Enf. 101 and 102. Fletcher

Advanced law enforcement techniques; mechanics and legal aspects of arrest, search, surveillance, and raids; foundations of criminal investigation; physical evidence and elements of legal proof.

302. Advanced Law Enforcement II. (3:3:0) S. (m) Prerequisites: Law Enf. 101 and 102. Fletcher

Advanced principles of criminal investigation; major case procedures and specialization; introduction to criminalistics and scientific aids; sources of information, records, informants, and modus operandi system.

501. Criminal Law for the Law Enforcement Officer. (2:2:0) F.S. (m) Prerequisites: Law Enf. 301, Pol. Sci. 110. Recommended: Pol. Sci. 361.

State and federal penal codes having to do with crime and the elements of crime; also the most frequently used sections of state codes and related statutes.

502. Fundamentals of Law Enforcement Administration I. (2:2:0) F.S. (m) Prerequisites: Pol. Sci. 330, Law Enf. 301.

Organization and management of line and staff operations of law enforcement agencies; professionalization, ethics, and press and public relations.

Library and Information Sciences —Graduate Department of

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070
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Associate Professor: H. T. Johnson (director, 324 JRCL).

Assistant Professors: G. Jenson, Knight (assistant director, 532 JRCL), Purdy, Schmidt, Thorne.

Instructors: Flake, A. Jensen, Lamson.

The undergraduate library science program provides basic courses for students wishing to obtain a minor or become certified as school librarians or to prepare for many public library positions.

A minor requires from 14 to 16 hours (depending upon the regulations of the major department) of selected courses including 355, 363, 370, 466 and Tchr. Ed. 406. Electives include Tchr. Ed. 340, Engl. 420, Hum. 101 or 201, Speech & Dram. Arts 527 and Lib. Sci. 569.

For official teacher certification requirements see section for Department of Teacher Education in this catalog.

Also on the undergraduate level an associate degree (2 yrs.) or library technician diploma may be obtained by following a prescribed course of study of library science, business education, and general education classes. (This program is fully outlined in the College of Industrial and Technical Education Section in this catalog.)

The graduate library program provides professional training for the student wishing to obtain a master's degree in library science. Emphasis in this program is on general preparation, but some elective courses will allow the student to become somewhat specialized in such areas as reader services or in methods of information retrieval.

Requirements for Admission to the Master's-Degree Program:

Same as general University requirements for graduate study but with a 3.0 grade-point average for the last two years of undergraduate work. At least one foreign language reading knowledge (before graduation) or 12 semester hours of college credit. The special 95, 96 series for graduate students may be used. This should be a modern language such as French, German, Spanish or Russian. In addition, a screening examination on the prerequisite courses will be required during the semester when the prerequisite courses are being completed and before acceptance into the graduate program.

An interview may be requested. Applicant must have taken the G.R.E. (Graduate Record Examination) aptitude test. Some typing ability is highly recommended. Student must give satisfactory evidence of English proficiency. A special course may be required.

Prerequisite Courses: 355, 370, 363, and Tchr. Ed. 406.

Graduation Requirements: 32 semester hours of which a total of 10 may be in another field. Not more than 9 hours may be accepted as transfer credit. Not more than 6 of this may be counted as graduate credit.

Candidates are expected to maintain a grade-point average of "B" and pass a comprehensive oral examination before graduation. No thesis is required, but a comprehensive research project is to be completed by each student.

Courses

111. Use of Books and Libraries. (1:2:0 for ½ term) F.S.Su.
Efficient use of library materials; card catalog, use of general reference books (bibliographies, dictionaries, encyclopedias, and indexes); and making of bibliographies.

☐**Humanities 201. A Historical Survey of the Arts.** (3:3:0)

☐**Computer Science 331. Computer Program Languages I (FORTRAN).** (3:2:1)

☐**Teacher Education 340. Children's Literature.** (2:2:0)

355. Classification and Cataloging. (3:3:0) F.S.Su. (m) Prerequisite: ability to typewrite. G. Jenson, Lamson
Theory and principles of classification and cataloging of print and nonprint materials in libraries. Practical problems and laboratory practice.

363. The Library in Society. (3:2:2) F.Su. Home Study also. (m) Knight, Thorne
Fundamentals of library service. General organization and administration in all types of libraries, including the IMC concept. Physical facilities, objectives, and management. Thirty hours of practice work required.

370. Introduction to Bibliography. (3:3:0) F.S.Su. (m) Purdy, Schmidt, Thorne
Intensive study of the content and use of reference books: encyclopedias, dictionaries, indexes, yearbooks, bibliographies, atlases, and biographics. Bibliographical form stressed.

☐**Teacher Education 406. Teaching Materials Laboratory (Audio-Visual Aids).** (2:2:1).

☐**English 420. Literature for Adolescents.** (2:2:0)

☐**Computer Science 451. Information Systems Analysis.** (3:3:0) Prerequisites: Comput. Sci. 331 or equivalent.

466. Building Library Collections. (3:3:0) F.S.Su. (m) Knight, Purdy
Principles, criteria, practice in selection and acquisition of print and nonprint materials.

☐**Speech and Dram. Arts 527. Storytelling.** (2:2:0)

☐**Communications 535. Public Relations.** (3:3:0)

541. Reader Services. (3:3:Arr.) F.Su. Knight
Study of the usual services to the reader in all types of libraries, basis of these services, observation of many of them. Community study.

555. Advanced Cataloging. (3:3:0) F.S.Su. Prerequisite: Lib. Sci. 355. Lamson
Examination of philosophical bases of classification and cataloging schemes. Extension of general descriptive cataloging, classification and subject headings through use of unabridged Dewey and L.C.

559. Development of Libraries and Library Materials for Children. (3:3:0) Thorne
Historical development of children's libraries, materials and services. Publishers, illustrators, and authors are considered. Relationship to sociological, educational, and philosophical forces of various periods discussed.

563. School Library Administration. (3:3:0) F.Su. Knight
The place of the library in the educational program, school library standards, special problems in personnel, space and equipment, budget, and services of the school library as instructional materials center.

569. Reading Guidance for Young People. (2:2:0) S.Su. (m) A. Jensen, Thorne
A critical study of the reading interests and needs of young people. Problems of the reluctant and the avid reader. Extensive examination, discussion and reading of books.

570. National, Regional and Subject Bibliography. (2:2:0) F.S.Su. Purdy
Characteristics and problems of national bibliographies; becoming familiar with the history and content of such bibliographies and with the techniques of recording materials for availability.

571. Bibliography of the Sciences. (3:3:0) F. Prerequisite: Lib. Sci. 370. Lamson
A survey and evaluation of library resources designed to acquaint the nonscience student with the problems encountered in providing science literature service in libraries.

572. Bibliography of the Humanities. (3:3:0) S. Purdy
A survey and evaluation of library resources, major bibliographic and fact sources, and contemporary book and nonbook materials.

573. Bibliography of the Social Sciences. (3:3:0) F.S. Prerequisite: Lib. Sci. 370. Knight, Purdy
A survey and evaluation of library resources, major bibliographic and fact sources, and contemporary book and nonbook materials.

580-584. Workshop: Current and Special Problems. (1-2:1-2 weeks: 40-50 hrs. per week ea.)

585. History of the Book. (2:2:0) S.Su. Flake
Development of printing, bookmaking and libraries from earliest times to present.

☐**Graduate Education 610. Development of Instructional Materials (Audio-Visual Aids).** (2:2:1).

☐**Graduate Education 628. Children's Literature.** (2:2:0)

630. Government Publications. (3:3:0) S.Su.
Intensive study of documents published by federal, state, and local governments and the U.N. with attention to their selection, organization and use in different types of libraries.

640. Documentation and Information Retrieval. (3:3:0) S. Prerequisite: Lib. Sci. 355. Johnson
Survey of nonconventional and experimental methods and devices for cataloging, classifying, indexing and retrieving; the use of data processing in all areas of librarianship.

650. Current Problems in Technical Services. (3:3:0) S. Lamson
Present-day issues in the growth, organization, housing, maintenance, and conservation of library collections; some documentation; administration of operations in the technical services.

663. Library Organization and Administration. (3:3:0) F. Johnson
Organization and administration of public, university, and special libraries. Organization and administrative theory discussed. Problems associated with personnel, authority, policy, planning, reports, standards, etc.

679. Patterns and Problems of Adult Readers. (3:3:0) F.Su.
Reading interests and habits of adults, survey of studies, materials for various types of readers, reader guidance, reader's advisory service, role of the library in adult education.

695, 696. Independent Readings in Library Science. (1-2:Arr.:Arr. ea.) F.S.Su. Johnson, Staff

697. Seminar: Research in Library Science. (2:2:0) F. Johnson
History and philosophical bases of research in library science. Survey of current methods and techniques.

698. Research Project. (2:2:0) S. Prerequisite: Lib. Sci. 697. Johnson
Advanced research course. Experience in accumulating, manipulating, and interpreting data. Statistical computer programs will be used and a comprehensive research project completed under individual advisement.

Linguistics

Associate Professor: R. W. Blair (coordinator, 239 McK).

Assistant Professors: R. L. Baird, Lytle.

The linguistics program is a graduate program leading to an M.A. degree in theoretical or applied linguistics. It is designed to provide specialized training in modern linguistics with emphasis either on the description of linguistic structure **per se** (theoretical linguistics) or on language teaching and learning problems (applied linguistics). In applied linguistics, the graduate linguistics program, in cooperation with the English Department, offers specialized training in the teaching of English as a foreign language.

For a description of requirements for an M.A. in linguistics or applied linguistics, see the Graduate School Catalog.

On the undergraduate level, although no baccalaureate degree is offered yet, there is a broad range of courses in the English and language departments as well as in the linguistics program. Certain of these are prerequisites to graduate work in linguistics. For an undergraduate minor in linguistics, 14 hours of linguistics are required, as approved by the department.

Courses

101, 102A,B,C, etc. Linguistic Study of a Non-European Language (two semesters). (4:3:2) F.S. Staff

A systematic study of the grammatical system of a non-European language. Native-informant lab required.

325. Introduction to Descriptive Linguistics. (3:3:0) F.S.Su. Baird

An introduction to linguistics which includes an introduction to the scientific study of language for students in foreign languages, English, and anthropology. Includes the nature and description of language, its sounds and grammar.

326. Introduction to Historical and Comparative Linguistics. (3:3:0) F.S. Folsom, Lytle

An introduction to the historical and comparative study of language for students in foreign languages, English, and anthropology.

360. Practical Phonetics. (2:2:0) F.S. Blair

Elementary principles of speech mechanics in their relation to correct diction.

423. Linguistics and Language Learning. (2:2:0) F.S. Blair

The application of linguistic science to problems in language learning. An introduction to contrastive linguistics.

493. Readings in Linguistics. (1-3:0:Arr.) F.S. Staff

525. Descriptive Phonology. (3:3:0) F. Blair

The articulatory and structural description of the sounds of language.

527. Descriptive Morphology. (3:3:0) S. Staff
The structural description of linguistic forms.

528. Syntax. (3:3:0) S. Prerequisite: Linguistics 527. Staff
Fundamental approach to generative grammar. Techniques of analysis of linguistic data and preparation of grammatical statements through ordered rules.

529, 530. Linguistic Structures. (3:3:1) F.S. Staff
A consideration and comparison of the phonological and morphological structures of several non-Indo-European languages. Students will work with native informants.

623. Problems in Contrastive Linguistics. (3:3:0) F.S. Blair
Contrast of structures in English and selected languages and the development of grammatical description from these contrasts.

626. Problems in Historical Linguistics. (3:3:0) Staff

693. Seminar in Linguistics. (2:2:0) S. Staff
Discussion of selected topics in linguistics.

699. Thesis for Master's Degree. (1:6:Arr.:0) F.S.Su.

Students in Russian class

Mathematics

Professors:	Fearnley, Fletcher, Hillam (chairman, 165 FOB), Robinson, Yearout*.
Associate Professors:	Burton, Egbert, Gee, Gill, Jamison, Larsen, H. Moore, Olpin, Wickes.
Assistant Professors:	Hansen, Haupt, Higgins, G. Peterson, J. M. Peterson, Skarda, Tolman*.
Instructors:	Dixon, Garner*, Hurd, Wight, Wynn.

$$\int_a^b \frac{dx}{x}$$

The Mathematics Department offers courses leading toward the Bachelor of Science and Master of Science degrees in mathematics and a Master of Science degree in mathematics education.

Mathematics Requirements for Bachelor of Science Degree

An undergraduate major in mathematics must present a program prepared in consultation with an adviser appointed by the department. In this program he is required to complete with a grade of "C–" or better

(1) The courses, Math. 332, 371, 541, 542.

(2) A minimum of 12 additional hours selected with prior approval of department from the courses, Math. 314, 372, 387, 411, 412, 434, 435, 436, 451, 508, 551, 552, 585.

A student who obtains a teaching certificate concurrently with his baccalaureate degree in mathematics may substitute Math. 302 for Math. 542 in requirement (1), and the courses Math. 300 and 301 for six of the twelve hours in requirement (2).

In addition to the above listed courses each departmental major is required to pass a written comprehensive examination.

Suggested Program: The following program is given as a guide in planning for those who wish to major in mathematics.

Freshman Year

	F	S
Math. 141, 142	4	4
Engl.	3	3
Undergrad. Relig. 121, 122	2	2
Health 130	2	
Hist. 170		3
P.E.	½	½
Dev. assy.	½	½
Elective (minor)	3	3
Elective (gen. ed.)	3	2
	18	18

Sophomore Year

	F	S
Math. 243, 244	3	3
Math. 371, 372	3	3
Undergrad. relig.	2	2
P.E.	½	½
Dev. assy.	½	½
Language	4	4
Elective (minor)	3	3
Elective (gen. ed.)	2	2
	18	18

If a student has not had adequate preparation in mathematics to permit him to begin his college work at the level of analytic geometry and calculus he should substitute the necessary prerequisite courses in place of Math. 141 in the above program. However, he should realize that as a consequence additional time will probably be required to complete all the requirements for graduation.

Majors in mathematics are encouraged to take advantage of the four hours of religion credit that may be earned by attending the devotional assemblies each of the four years of the undergraduate program.

In selecting courses to meet the physical science group requirement a mathematics major should consider only the following: Chem. 105, 106 or 111, 112, Physics 121, 122, 221, 222 or 211, 212, 213, 214.

Language. The student is urged to achieve competence in French, German, or Russian while an undergraduate.

Mathematics Teaching. Students with an academic major in mathematics who wish to prepare to teach mathematics in the secondary schools should consult with the Department of Mathematics. A listing of certification requirements can be found in the Teacher Education Section of this catalog.

Undergraduate Minors

A student who wishes to minor in mathematics must complete, with a grade of "C–" or better, 9 hours of course work in those courses which are designated by (m) in the listing below.

Graduate Degrees

The Department of Mathematics offers courses leading to the degrees of Master of Science in mathematics and Master of Science in mathematics education. Complete details are available in the Graduate School Catalog.

Courses

51. Plane Geometry. (0:3:0) (Offered on demand)
Equivalent to high school plane geometry. This is required of all students majoring in the College of Physical and Engineering Sciences. This is also offered by correspondence prior to entrance as a freshman.

90. Algebra. (0:3:0) (Offered on demand)
Equivalent to first year high school algebra.

97. Mathematical Review. (0:3:0) F.S.Su. Prerequisite: Math. 111.
An intensive review of mathematics through calculus, for returning missionaries and others. Offered on the block plan each block. Concurrent registration in a credit course is allowed.

101. Intermediate Algebra. (3:5:0) F.S.Su. Prerequisites: 1 year of high school algebra (or Math. 90) and 1 year of plane geometry (or Math. 51).
This course will provide students of varied mathematical backgrounds an opportunity to receive the necessary training required to continue in other mathematics and science courses. This course may NOT be used for credit in filling the mathematics, statistics, and logic requirement for the baccalaureate degree.

105. College Algebra. (3:4:0) F.S.Su. Prerequisite: Math. 101 or equivalent.
This course parallels part of Math. 111 at a slower pace for students whose mathematical preparation indicates the need for more time. Only one of the three courses 105, 108, 111 may be taken for credit.*

106. Trigonometry. (3:3:0) F.S.Su. Prerequisite: Math. 105 or equivalent.
This course parallels part of Math. 111 but proceeds at a slower pace for students whose mathematical preparation indicates the need for more time. Only one of the two courses 106, 111 may be taken for credit.*

108. Basic Analysis. (4:4:1) F.S.Su. Prerequisite: Math. 101 or equivalent.
Mathematical method, the real number system, college algebra, and trigonometry. Primarily for students in the College of Business. Only one of the three courses 105, 108, 111 may be taken for credit.*

109. Introduction to Calculus. (4:4:1) F.S.Su. Prerequisites: Math. 108 or 105 and 106 or 111 or equivalent.

An introduction to plane analytic geometry and one-dimensional calculus. Primarily for students in the Colleges of Biological Sciences and Business. Only one of the three courses 109, 112, 141 may be taken for credit.*

111. College Algebra and Trigonometry. (5:6:0) F.S.Su. Prerequisites: two years of high school algebra and one year of plane geometry or Math. 101.

112, 113. Analytic Geometry and Calculus I, II. (4:4:0) F.S.Su. Prerequisite: Math. 111 or equivalent (2½ years high school algebra, 1 year high school geometry and ½ year high school trigonometry).

Plane analytic geometry, differential and integral calculus with applications—an integrated course. Only one of the sequences (112, 113, 114 or 141, 142) may be taken for credit*.

121, 122. Technical Mathematics. (3:2:3 ea.) F.S. Prerequisite: Math. 101 or equivalent.

College algebra, trigonometry, analytical geometry, and an introduction to calculus. Emphasis on problems and practical application. For students in the Technical Institute only.

141, 142. Introduction to Calculus and Analysis. (4:4:0 ea.) F.S.Su. Prerequisites: 2½ years high school algebra, 1 year high school geometry, ½ year high school trigonometry, or Math. 111 or equivalent.

Plane analytic geometry and one-dimensional calculus with applications. For majors in mathematics and others desiring a more rigorous treatment of calculus than in Math. 112, 113.

205. Structure of Mathematics. (3:3:0) F.S.

A consideration of the structure and meaning of mathematics. For honor students.

210. Introduction to Mathematical Logic. (3:3:0) (Offered on demand) Prerequisites: Math. 105 or 111.

Boolean algebra with applications, quantification, algorithms, Turing machines and undecidability. Particularly recommended for students in computer science or linguistics.

214. Analytic Geometry and Calculus III. (3:3:0) F.S.Su. Prerequisite: Math. 113.

Plane analytic geometry, differential and integral calculus with applications—an integrated course. This is a continuation of Analytic Geometry and Calculus I and II, Math. 112 and 113. Only one of the sequences (112, 113, 214), (141, 142) may be taken for credit.*

223. Technical Mathematics. (3:3:0) F.S. Prerequisite: Math. 122.

A continuation of Math. 122. Analytic geometry and calculus. For students in the Technical Institute.

224. Numerical Methods in Technology. (3:3:0) S. Prerequisites: Math. 223 and Computer Science 331 or equivalent.

Applications of matrix algebra, vector analysis, curve fitting, differences, differential equations, numerical integration, systems of linear equations, linear programming, and solution of nonlinear equations. For students in the Technical Institute.

243, 244. Intermediate Calculus and Analysis. (3:3:0 ea.) F.S.Su. (m) Prerequisite: Math. 142 or consent of department.

Solid analytic geometry and multidimensional calculus with applications. For majors in mathematics and others desiring a more rigorous treatment.

291, 292. Honors Seminar in Mathematics. (1:1:0 ea.) F.S.

A special seminar in the structure of mathematics. For freshman and sophomore students in the University Honors Program who are majoring in mathematics and open to other interested students.

300. History of Mathematics. (3:3:0) F.Su. (m) Prerequisite: Math. 112 or 301. The development of mathematics with emphasis on the underlying principles and motivations.

301. Foundations of Algebra. (3:3:0) F.S.Su. Prerequisite: Math. 111 or 305. Sets, logic, basic number systems; required of prospective secondary teachers.

302. Foundations of Geometry. (3:3:0) F.S.Su. Prerequisite: Math. 112, 141, or 301.

A critical analysis of the logical structure and content of Euclidean geometry, and an introduction to non-Euclidean geometries; required of prospective secondary teachers.

*If more than one of the alternatives are successfully completed, credit will be given for that alternative with the highest course number; e.g., if both 105 and 108 are taken, credit will be given only for the 108 regardless of which is taken first.

A failing grade in any course may be removed only by repeating the course.

305. Basic Concepts of Mathematics. (3:3:0) F.S.Su.

Designed to develop an understanding of the basic structure of mathematics. This course is required of all prospective elementary school teachers.

306. Concepts of Mathematics. (3:3:0) F.S. Prerequisite: Math. 305. Study of modular arithmetic, real numbers, complex numbers, relations and functions, measurement, informal geometry. For elementary school teachers.

311. Mathematics of Digital Computers. (3:3:2) F.S. (m) Prerequisite: Math. 112 or 141.

Computer logic, flow diagram, coding techniques, solution of problems using a modern digital computer as a laboratory machine.

314. Vector Analysis. (3:3:0) (Offered on demand) (m) Prerequisite: Math. 214 or 244.

Vector algebra, vector differential operators, integral theorems, introduction to potential theory.

321. Applied Ordinary Differential Equations. (3:3:0) F.S.Su. Prerequisite: Math. 214 or equivalent.

An introduction to the theory of ordinary differential equations with applications, including Fourier series and integrals and the Laplace transformation (not open to mathematics majors).

322. Topics in Applied Mathematics. (3:3:0) F.S.Su. Prerequisite: Math. 214. An introduction to the theory of analytic functions of a complex variable, and vector, matrix and numerical analysis (not open to mathematics majors).

323. Applied Partial Differential Equations. (3:3:0) F.S. Prerequisite: Math. 321.

An introduction to the theory of partial differential equations, Bessel functions, Legendre functions, special transforms, boundary value problems with applications (not open to mathematics majors).

332. Introduction to Complex Analysis. (3:3:0) F.S.Su. (m) Prerequisite: Math. 214 or 244.

Complex algebra, analytic functions, integration in the complex plane, infinite series, theory of residues, conformal mapping.

371. Introduction to Modern Algebra. (3:3:0) F.S.Su. (m) Prerequisite: Math. 214, 142, or 301.

An introduction to modern algebra, including the study of groups, rings, and fields.

372. Introduction to Linear Algebra. (3:3:0) S. (m) Prerequisite: Math. 214 or 142.
An introduction to linear algebra, including the study of linear spaces, linear transformations, and matrices.

387. Theory of Numbers. (3:3:0) F. (m) Prerequisite: Math. 214 or 142.
Foundations of number theory, congruences, residues, reciprocity law, Diaphantine equations.

411. Numerical Analysis. (3:3:0) F. (m) Prerequisite: Math. 321 or 434.
Numerical methods for finding roots of equations, differences, summation of series, curve fitting, numerical integration and differentiation.

412. Numerical Analysis. (3:3:0) S. (m) Prerequisite: Math. 321 or 434.
Numerical methods for solving systems of linear equations, ordinary and partial differential equations, linear programming. Independent of Math. 411.

434. Introduction to Ordinary Differential Equations. (3:3:0) F.S.Su. (m) Prerequisite: Math. 244 or 321.
An introductory course in the theory of ordinary differential equations.

435. Intermediate Differential Equations. (3:3:0) S. (m) Prerequisite: Math. 434.
Intermediate theory of ordinary differential equations including solutions of special types of equations, existence theorems, series solutions, systems of differential equations.

436. Introduction to Partial Differential Equations. (3:3:0) F.S. (m) Prerequisite: Math. 434 or consent of instructor.
Methods for finding solutions to basic equations. Discussion of uniqueness, existence, and stability with respect to data.

451. Modern Geometry I. (3:3:0) F. (m) Prerequisite: Math. 372.
Synthetic and analytic projective geometry including relationships with affine and Euclidean geometry. Geometry considered as the study of invariants of groups of transformations.

452. Modern Geometry II. (3:3:0) S. Prerequisite: Math. 451.
A continuation of Math. 451 including a relationship to linear algebra, supplemental design and combinatorial mathematics.

495. Special Readings in Mathematics. (1-2:0:1-3) (Offered on demand) Prerequisite: consent of instructor.
Special directed reading in work beyond the scope of usual undergraduate courses. Topics to be selected to meet the need and interest of the student.

501, 502. Foundations of Mathematical Thought. (3:3:0 ea.) F.S.
Analysis of the axiomatic method, set theory, the axiom of choice, mathematics as an extension of logic paradoxes, intuitionism and formalism. For majors in mathematics education.

503. Mathematics for Secondary School Teachers. (3:3:0) (Offered on demand) Prerequisite: teaching experience or consent of instructor.
Emphasis given to the newer materials and trends in teaching mathematics in the secondary schools. For in-service teachers or mathematics education graduate students.

508. Mathematical Logic. (3:3:0) F. Prerequisite: Math. 371 or 541.
Propositional and first-order predicate calculi. Axiomatic set theory, well-ordering, transfinite induction.

513A,B,C,D. Advanced Topics in Applied Mathematics. (3:3:0 ea.) (Offered on demand) (m) Prerequisite: consent of instructor.
Specialized topics selected from integral equations, Boolean algebra, information theory, group representations, calculus of variations, etc., varied from time to time.

541, 542. Advanced Calculus. (3:3:0 ea.) F.S. (m) Prerequisite: Math. 244 or 214.
Includes a rigorous treatment of continuity, differentiability and Riemann integration of functions of one and several real variables and a development of infinite series.

545A,B,C,D. Special Topics in Analysis. (3:3:0 ea.) (Offered on demand) Prerequisite: consent of instructor.

551, 552. Introduction to Topology. (3:3:0 ea.) F.S. (m) Prerequisite: credit or concurrent registration in Math. 541.
An axiomatic treatment of linearly ordered spaces including properties of closed sets, connected sets, and separable sets, elementary plane topology, metrization, application to analysis.

555A,B. Special Topics in Topology. (3:3:0 ea.) (Offered on demand) Prerequisite: consent of instructor.

575A,B,C,D. Special Topics in Algebra. (3:3:0 ea.) (Offered on demand) Prerequisite: consent of instructor.

585. Matrix Analysis. (3:3:0) (Offered on demand) (m) Prerequisite: Math. 322 or 372.
An introduction to matrix analysis, including the study of characteristic values, canonical forms, and functions of matrices, with applications.

591, 592. Senior Seminar in Mathematics. (1:1:0 ea.) F.S.
A seminar for senior or graduate majors in mathematics.

629. Teaching Mathematics in Secondary Schools. (2:2:0) (Offered on demand)
This class is designed specifically for teachers and supervisors of mathematics in the secondary schools. The newer materials, methods, and trends in mathematics instruction. Also listed as Graduate Education 629.

631, 632. Complex Analysis. (3:3:0 ea.) (Offered 1968-69 and alternate years) Prerequisite: Math. 332 and 542.

634, 635. Theory of Ordinary Differential Equations. (3:3:0 ea.) (Offered 1969-70 and alternate years) Prerequisite: Math. 435 and 542.

641, 642. Functions of a Real Variable. (3:3:0 ea.) (Offered 1969-70 and alternate years) Prerequisite: Math. 542.

647, 648. Partial Differential Equations. (3:3:0 ea.) (Offered 1968-69 and alternate years) Prerequisites: Math. 436 and 542.
General solutions, existence, uniqueness and stability of standard equations, transforms, separable coordinate systems, special techniques, numerical solutions.

651, 652. General Topology I, II. (3:3:0 ea.) (Offered 1969-70 and alternate years) Prerequisite: consent of instructor.

655A,B. Advanced Special Topics in Topology. (3:3:0) (Offered on demand) Prerequisite: consent of instructor.
Special topics selected from geometric combinatorial topology, differential topology, Euclidean topology, algebraic topology, Knot theory, homotopy theory, dimension theory, fixed-point theory, manifold theory, etc., varying from time to time.

661, 662. Functional Analysis. (3:3:0 ea.) (Offered 1968-69 and alternate years) Prerequisite: consent of instructor.

671, 672. Modern Algebra. (3:3:0 ea.) (Offered 1969-70 and alternate years) Prerequisites: Math. 371 and 372.

681, 682. Linear Algebra. (3:3:0 ea.) (Offered 1968-69 and alternate years) Prerequisite: Math. 371 and 372.

695. Readings in Mathematics. (1-2:1-2:0) (Offered on demand)

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

Mechanical Engineering Science

(Including Aeronautical and Astronautical Engineering)

Professors: Cannon, Simonsen (chairman, 223 ELB).

Associate Professors: Free, Heaton, Warner, Wille.

Assistant Professor: West.

Supervisor of Laboratories: Andersen.

The Mechanical Engineering Science Department offers a professional program leading to the degrees of Bachelor of Engineering Science, Master of Science, and Doctor of Philosophy. The curriculum is fully accredited by the Engineers Council for Professional Development (ECPD) as a professional engineering curriculum. The courses in the professional curriculum are taught on a rigorous scientific level made possible by the preprofessional emphasis on mathematics, physics, and chemistry. The student is also provided with a well-balanced program of social studies, religion, biological science, and humanities. Students completing this professional program are educationally prepared for and encouraged to become licensed professional engineers. **Students who desire technical training as technicians rather than as engineers should consult the offerings of the College of Industrial and Technical Education including the Technical Institute.**

Advanced classroom and laboratory course work offered in such areas as heat transfer, fluid mechanics, thermodynamics, automatic control, kinematics, stress analysis, machine design, and materials science provides the necessary background for work in the newer, advanced fields such as control, propulsion, and structural design of aircraft, rockets, space vehicles, watercraft, etc. These same basic engineering techniques are also developed to handle the more everyday needs of our modern society, including automated manufacturing, automobiles, home appliances, etc. Training is provided for mechanical engineers working in the fabrication of metals and plastics, flow of liquids and gases, burning of fuel, mechanisms, or transfer of heat.

The graduate program in mechanical engineering is listed along with the undergraduate program because of the great emphasis in recent years on graduate-level preparation for the professional engineer. Brigham Young University joins educational and industrial leaders in promoting graduate work in mechanical engineering. Research and advanced study are provided at the forefront of many new and exciting areas.

The fundamental courses in mechanical engineering form the education for many specialized occupational titles. These specialized programs are sometimes listed under separate headings such as aeronautical engineering, manufacturing engineering, aerospace engineering, industrial engineering, rocket engineering, etc. The student, in consultation with his adviser, may formulate other programs to meet educational goals.

The extensive background of the faculty, combined with modern laboratories and precision scientific equipment, is valuable to those who wish to undertake special projects in their undergraduate work. Qualified students in the professional school may gain experience by assisting graduate students and faculty on research projects underway in the department. Seminar work and participation in technical meetings sponsored by the student section of the American Society of Mechanical Engineers provide a rich career background.

Entrance Requirements

The entrance requirements of the University as outlined elsewhere in this catalog apply to mechanical engineering as well. Special recommendations for engineering students are contained in the section on the College of Physical and Engineering Sciences. With some summer work, a well-qualified student with proper high school preparation can complete the Bachelor of Engineering Science (B.E.S.) program in as little as four calendar years. The Master of Science (M.S.) program may be completed in five calendar years. However, the degree is awarded for the competence level rather than for the number of years of attendance. Therefore, beginning students with inadequate high school preparation will require additional time to complete the degree requirements. See the section on the College of Physical and Engineering Sciences for further details.

Grade Requirements

To receive the B.E.S. degree in mechanical engineering science, a student must complete courses satisfying general education and departmental requirements with a cumulative grade-point average of 2.0 (C) minimum.

A maximum of 9 hours of "D" is allowed in fulfilling departmental requirements.

Periodically, the progress and level of achievement of each student will be reviewed to establish his ability to continue in the mechanical engineering program.

General Course Requirements

Engineering students are subject to the general education requirements of the University except that the biological science requirement is reduced to four semester hours. Attention of the student is called to the possibility of reducing his graduation requirements by proper high school background. As much as nine hours (nearly half of one semester) of course work may be waived from the total requirement. A poorer high school background may require additional work beyond that listed in this section.

Programs for transfer students will be developed to match their previous course work and experience.

Engineering students may register for up to 18 hours exclusive of physical education and forum and devotional assemblies in any one semester without obtaining special permission.

Students pursuing the AFROTC program should contact the Department of Aerospace Studies to make provision for the additional courses required by this program.

Departmental Requirements for the Bachelor of Engineering Science Degree

	Hours
Chem. 105, 106	8
Physics 121, 122, 221	10
Math. 112, 113, 214, 321, 322, 323	21
Stat. 332	2
C.E. 102, 201, 303, 304, 305, 571	16
E.E. 301, 302, 303, 304, 305, 307	9
Engl. 316	2
Ch.E. 378	3
M.E. 101, 151, 201, 321, 322, 351, 363, 364, 412, 413, 431, 435, 441, 454, 465, 466, 571, 575, and 9 hours of restricted electives to be selected from 400- and 500-level courses (or from other departments as approved by petition)	49
Total Departmental Requirement	120

Combined Bachelor's and Master's Program

Undergraduate students may elect to commence earning graduate credit toward a Master of Science degree during the last year of undergraduate work. Those students so electing may be excused from M.E. 572 as a B.E.S. requirement. Both the B.E.S. and M.S. degrees will be granted as the specific requirements are fulfilled.

A student must formally apply for admission to the Graduate School to pursue the Master of Science degree. Specific details of the Graduate School requirements are contained in the Graduate School Catalog. It is the student's responsibility to be familiar with these requirements.

Suggested Course Sequence

This sequence is designed for the average student. Those with better high school background can accelerate the course while those requiring remedial work will require a different pacing.

First Year

	F	S
M.E. 101, 151	2	2
C.E. 102		2
Math. 112, 113	4	4
Physics 121, 122	3	3
Engl. 111, 112	3	3
Health 130	2	
P.E.	½	½
Undergrad. Relig. 121, 122	2	2
Dev. assy.	½	½
	17	17

Second Year

	F	S
M.E. 351		3
C.E. 201		3
Chem. 105, 106	4	4
M.E. 201	2	
Physics 221	4	
Math. 214, 321	3	3
P.E.	½	½
Stat. 332		2
Undergrad. relig.	2	2
Dev. assy.	½	
	16	17½

Third Year

	F	S
M.E. 321, 322	3	3
M.E. 363, 364	2	1
C.E. 303, 304	3	3
Ch.E. 378		3
E.E. 301, 304, 305	2	3
Math. 322	3	
C.E. 305		2
Undergrad. relig.	2	2
Engl. 316	2	
Dev. assy.	½	½
	17½	17½

Fourth Year

	F	S
M.E. 412, 413	3	3
M.E. 435, 441	3	3
M.E. 465, 466	1	1
M.E. 431, 454	3	3
E.E. 302, 303	3	
Math. 323		3
Groups, relig.	4	2
Dev. assy.	½	½
	17½	15½

Fifth Year

	F	S
M.E. 571, 572	2	3
Electives	3	6
C.E. 571	3	
Groups	6	6
Dev. assy	½	
	14½	15

For the student who finds it possible to finish his general education requirements early, there is an opportunity to begin work on his master's degree during the fifth year.

Specialization Electives

The following are suggested as possible courses for the student who desires to align himself to a particular specialty of mechanical engineering. The list is not all inclusive. The student may choose a plan which meets his individual educational goals after consultation with his adviser.

Aeronautical Option
M.E. 511
M.E. 512
M.E. 515
M.E. 533
M.E. 541
M.E. 585
Physics 521
Physics 522
Physics 536
Physics 537

Applied Mechanics Option
M.E. 511
M.E. 531
M.E. 533
M.E. 535
M.E. 537
C.E. 501
C.E. 502
C.E. 503
C.E. 507
C.E. 527

Bio-Engineering Option
M.E. 512
M.E. 531
M.E. 541
Zool. 261*
Zool. 465*
Chem. 351, 352
Chem. 384
Chem. 385

Nuclear Option
M.E. 511
M.E. 512
M.E. 521
M.E. 523
M.E. 531
M.E. 541
Stat. 421, 422
Stat. 501
Chem. 564
Physics 315, 316
Physics 551, 552

Thermoscience Option
M.E. 511
M.E. 512
M.E. 521
M.E. 522
M.E. 523
M.E. 524
M.E. 541
M.E. 581
M.E. 583
M.E. 585
Chem. 461, 462
Chem. 464
Ch.E. 478

Materials and Metallurgy Option
M.E. 552
M.E. 554
C.E. 501
C.E. 502
C.E. 507
Chem. 461
Chem. 462
Chem. 464
Chem. 521
Chem. 522

Mechanical Design Option
M.E. 531
M.E. 533
M.E. 535
M.E. 537
M.E. 552
C.E. 501
C.E. 502
C.E. 507
Art 120
Indus. Tech. 337

Industrial and Manufacturing Option
Bus. Mgt. 321
Bus. Mgt. 340
Bus. Mgt. 458
Bus. Mgt. 461
Bus. Mgt. 462
Bus. Mgt. 485
Bus. Mgt. 521
Bus. Mgt. 575
Indus. Tech. 332
Indus. Tech. 430
Indus. Tech. 433
M.E. 554

*Prerequisites to these courses may fill general education requirements.

Courses

101. Introduction to Mechanical Engineering Systems. (2:1:3) F.
Introduction to the mechanical engineering profession through elementary design problems and basic computation techniques.

151. Introductory Metallurgy. (2:1:3) F.S.
Nature of metals; metallurgical examination and testing; phase diagrams; metal production and heat treatment; foundry processes; forming and welding processes; powder metallurgy; and associated laboratories.

201. Introduction to System Design. (2:1:3) F.S.
Synthesis and analysis of elementary engineering systems. The digital computer as a design tool. Emphasis on creative aspects of design through student projects.

301, 302. Elements of Thermodynamics, Fluid Mechanics, and Heat Transfer I, II. (3:3:0) I F., II S. Prerequisites: M.E. 301—Physics 122; 302—M.E. 301, C.E. 304, and Math. 321.
First and second laws of thermodynamics; fluid statics; incompressible and compressible fluid flow; heat transfer by conduction, convection, and radiation with applications to electrical equipment.

321, 322. Thermodynamics. (3:3:0 ea.) F.S. Prerequisites: M.E. 321—Physics 122, concurrent registration in M.E. 363; M.E. 322—M.E. 321, concurrent registration in M.E. 364.
A first course in fundamentals of classical thermodynamics for mechanical engineering majors. Emphasis is on the macroscopic approach. Covers cycles as well as an introduction to combustion.

351. Principles of Applied Metallurgy. (3:2:3) F. Prerequisite: Ch.E. 378.
Control of physical properties by strain, solution and precipitation hardening, recrystallization and multiphase alloying. Emphasis on quantitative properties predictions based upon microstructures.

363. Mechanical Engineering Instrumentation. (2:1:3) F.S. Prerequisites: Stat. 332, Physics 221, and concurrent registration in M.E. 321.

An introduction to theory and application of static and dynamic measurements including displacement, acceleration, temperature, pressure, strain, high-speed photography, etc.

364. Mechanical Engineering Laboratory II. (1:0:3) S. Prerequisites: M.E. 363, and concurrent registration in M.E. 321.

Experimental exercises to demonstrate principles of mechanical engineering. To reinforce classroom theory and demonstrate applications the student performs and designs laboratory experiments assigned in M.E. 322.

412. Fluid Mechanics I. (3:3:0) F. Prerequisites: Math. 321 and concurrent registration in M.E. 465.

A study of fluid statics, viscous flow; dimensional analysis; incompressible flow; compressible flow; fluid meters; lift and drag; dynamic similarity; momentum; potential theory; fluid machinery.

413. Fluid Mechanics II. (3:3:0) S. Prerequisites: Math. 322 and concurrent registration in M.E. 466; M.E. 412.

Compressible flow; shock effects; Fanno and Rayleigh lines; generalized one-dimensional flow.

422. Statistical Thermodynamics.* (2:2:0) Arr. Prerequisites: M.E. 321; Stat. 322.

Methods of statistical inference, Jaynes formalism, statistical treatment of perfect gases, discussion of temperature, heat, work, friction, and thermal properties from a molecular (microscopic) point of view.

431. Kinematics. (3:2:3) F. Prerequisites: C.E. 102, 304 and concurrent registration in M.E. 465.

Relative motion of links in mechanisms; velocities and accelerations of machine parts; rolling contact; cams; gearing; synthesis of mechanisms; includes computer-aided design techniques.

435. Mechanical Vibrations. (3:3:0) F. Prerequisites: Math. 321; C.E. 304, and concurrent registration in M.E. 465.

Fundamentals of simple vibrating systems with applications.

441. Heat Transfer. (3:3:0) S. Prerequisites: M.E. 412, 321, Math. 323, and concurrent registration in M.E. 466.

Fundamentals of heat transfer; basic laws; steady and unsteady conduction; free and forced convection; change of phase; radiation; heat exchangers; aerodynamic heating.

454. Analysis and Manufacture of Machine Components. (3:2:3) S. Prerequisites: M.E. 431, C.E. 201.

Theory, design and manufacture of machine components.

465. Mechanical Engineering Laboratory III. (1:0:3) F. Prerequisites: concurrent registration in M.E. 412, 431, and 435.

Experimental exercises to demonstrate principles of mechanical engineering. To reinforce classroom theory and demonstrate applications. The student designs and performs laboratory experiments assigned in M.E. 413 and 441.

466. Mechanical Engineering Laboratory IV. (1:0:3) S. Prerequisites: M.E. 465 and concurrent registration in M.E. 413 and 441.

Experimental exercises to demonstrate principles of mechanical engineering To reinforce classroom theory and demonstrate applications. The student designs and performs laboratory experiments assigned in M.E. 413 and 441.

472. Heating, Ventilating, and Air Conditioning.* (2:2:0) Arr. Prerequisite: M.E. 322.

Heating and cooling for comfort. Design of warm air, hot water, and steam heating systems for residence and commercial buildings.

☐**C.E. 501. Advanced Mechanics of Materials I.*** (3:3:0) (interdepartmental) Arr. Prerequisite: C.E. 303.

☐**C.E. 502. Advanced Properties of Materials I.*** (3:3:0) (interdepartmental) Prerequisite: C.E. 305 or equivalent.

511. Intermediate Gas Dynamics. (3:3:0) Arr. Prerequisite: M.E. 413.

Potential theory and Euler's equations. Supersonic and subsonic multidimensional flow. Method of characteristics, small perturbation theory, Hodograph theory. Theoretical airfoil coefficients, etc.

512. Boundary Layer Theory. (3:3:0) Arr. Prerequisite: M.E. 412.

The stress tensor, Navier-Stokes equations, exact solutions for parallel flow, lubrication theory, Prandtl's equations, separation, Karman-Pohlhausen integral methods; applications.

515. Applied Aerodynamics and Flight Mechanics. (3:3:0) Su. Prerequisite: M.E. 413.

An integrated picture of modern applied aerodynamics up to and including performance, stability and control of aerospace vehicles.

521. Advanced Thermodynamics.* (3:3:0) Arr. Prerequisite: M.E. 322.

Extended treatment of the fundamentals of thermodynamics including transient conditions, direct energy conversion, and current topics.

522. Combustion.* (3:3:0) Arr. Prerequisite: M.E. 322.

Mass balance and chemical structure; chemical equilibrium and kinetics as applied to combustion; burning models, solid, liquid and gaseous. Deflagration and detonation-type burning; properties of fuels and combustion hardware.

531. Principles of Automatic Control.* (3:3:0) Arr. Prerequisites: M.E. 412, 435; Math. 322.

Transfer functions applied to mechanical, hydraulic, pneumatic, and electrical components and their combination. Block diagrams, Nyquist and Routh criteria. Bode's and root locus plots, integral and error rate compensation. Nonlinear systems.

533. Stress Analysis of Aerospace Structures.* (3:3:0) Arr. Prerequisite: C.E. 501 or consent of instructor.

Particular emphasis is given to analysis of aircraft and missile-type structures; buckling of columns and compression panels; shear and tension field panels; curved beams and rings; semimonocoque structures.

535. Advanced Vibration Analysis.* (3:3:0) Arr. Prerequisite: M.E. 435.

Vibration characteristics of systems with multiple degrees of freedom; vibrational modes of elastic bodies; random vibrations; simple nonlinear systems.

537. Advanced Kinematics.* (3:3:0) Arr. Prerequisite: M.E. 431.

Geometry of constrained motion, with application to point paths; kinematic synthesis; types of mechanisms.

541. Advanced Heat Transfer. (3:3:0) Arr. Prerequisite: M.E. 441.

Heat transfer analysis by numerical and analog methods. Emphasis on radiation and conduction. Use of digital and analog computers, passive analogs.

552. Design and Materials Applications. (3:3:0) Arr. Prerequisites: M.E. 351, 454.

Applied and residual stresses; material selection; static, impact and fatigue strength; fatigue damage; surface treatments; elastic deflection and stability all as applied to mechanical design.

554. Advanced Manufacturing Processes.* (3:3:0) Arr. Prerequisite: M.E. 351, or consent of instructor.

Basic analysis of forming, machining, welding, and casting processes with emphasis on microstructures. Selection of process parameters with consideration of economics and material properties.

571. Mechanical Design I. (2:1:3) F.S. Prerequisites: M.E. 413, 441, 454, or consent of instructor.

Application of mechanical engineering theory to specific design problems. Emphasis on group projects. Philosophy of design.

572. Mechanical Design II. (3:1:6) F.S. Prerequisites: M.E. 413, 441, 454, or consent of instructor.

Continuation of M.E. 571 with emphasis on prototype construction, testing, and evaluation.

581. Internal Combustion Engines. (3:2:3) Arr. Prerequisite: M.E. 322.

Basic principles of spark-ignition and compression-ignition engines, actual cycles, performance characteristics, carburetion and ignition principles, detonation and combustion. Laboratory work with three advanced engine testing cells.

583. Principles of Turbomachinery. (3:3:0) Arr. Prerequisite: M.E. 412.

Dimensional analysis; stator and rotor energy and momentum transfer; radial and axial flow machines; system component matching; Reynolds number and Mach number effects; applications.

585. Jet Propulsion Power Plants. (3:3:0) Arr. Prerequisite: M.E. 413.

Synthesis course in thermal propulsion systems. The rocket, ram jet, and turbojet are used as vehicles for teaching propulsion fundamentals and system interactions.

591, 592. Seminar.* (1:1:0 ea.) F.S. Prerequisite: senior standing.

Student and faculty presentation of topics of special and current interest.

595, 596. Special Problems.* (Arr.) Arr. Prerequisite: consent of department chairman.

597. Undergraduate Research.* (Arr.) Arr. Prerequisite: consent of department chairman.

611. Theories of Fluid Turbulence.** (3:3:0) Arr. Prerequisite: M.E. 412 or consent of instructor.

612. Principles of Ideal-Fluid Dynamics. (3:3:0) Arr. Prerequisites: M.E. 412; Math. 322, 323.

621, 622, Thermodynamics Theory I, II.* ** (3:Arr.:Arr. ea.) Arr. Prerequisite: M.E. 322.

631. Mechanical Control Systems.** (3:3:0) Arr. Prerequisite: M.E. 531.

635. Advanced Vibration Analysis II.** (3:Arr.:Arr.) Prerequisite: M.E. 535.

637. Advanced Dynamics of Mechanical Elements.** (3:3:0) Arr. Prerequisites: Math. 322, 323; M.E. 435.

641, 642. Heat Transfer Theory I, II.** (3:3:0 ea.) Arr. Prerequisite: M.E. 441.

661, 662. Elasticity in Engineering.** (3:Arr.:Arr. ea.) Arr.

697. Research.** (Arr.) Arr.

699. Thesis for Master's Degree.** (6-9:Arr.:Arr.) Arr.

791A,B,C,D. Seminar for Doctoral Students. (1:1:0 ea.)

795. Selected Topics in Mechanical Engineering. (1-3:Arr.:Arr.) Arr.

797. Research for Doctoral Students. (Arr.) Arr.

799. Dissertation for Doctoral Students. (Arr.) Arr.

*Electives offered upon approval of department chairman. Frequency based on demand.

**Graduate courses offered on demand only. Their full description can be found in the Graduate School Catalog.

Microbiology

Professors:	Beck, Donaldson, Larsen (chairman, 110 B), R. Sagers.
Associate Professors:	Bradshaw, Burton, Hoskisson, North, Trent.
Instructor:	Croft.
Special Instructors:	Call, LeCheminant, G. Sagers.

The curriculum of the Department of Microbiology is designed to accomplish the following objectives: (1) train competent microbiologists and medical technologists, (2) provide a basic background for all students' general education, and (3) serve other departments that request or require specific training in microbiology.

Microbiology Major

The minimum requirements for a Bachelor of Science degree in the department are completion of the following courses or their equivalents in microbiology and supporting fields: zoology or botany, 6 hours; Chem. 105, 106, 151, 223, 384, 385; Math. 105; Physics 100; Micro. 331, 491 (2 semesters), 501, 511, and one of the following options: (a) Micro. 401 through 406; (b) Micro. 531 and 451; (c) Micro. 531 and one year of organic chemistry.

The following courses are recommended for students who plan to do postgraduate work in microbiology: Chem. 105 and 106 (or 111, 112), 223, 351, 352, 354, 581, 584; Math. 105 and 106 (or 111, 112); Physics 201, 202; Bot. 101, 335, 376, 440 or Zool. 105, 261, 263, 376, 417.

Students minoring in microbiology are encouraged to complete Micro. 321 and 322 (or 331); Micro. 501 and additional hours selected from upper-division courses to bring the total to 14 semester hours.

Medical Technology Major

Through a cooperative agreement with the various hospitals, Brigham Young University has made provision for training medical technologists. The program is designed to prepare students for careers in clinical laboratories and medical research laboratories. The curriculum indicated in the following outline consists of a three-year period of residence study at the Brigham Young University campus and one year of practical hospital internship.

During the fourth year (internship) the student will register for Microbiology 401 through 406 and pay tuition and fees to the University. After satisfactory completion of the internship, the student is eligible to receive a Bachelor of Science degree in microbiology.

Students may elect to study on campus four years and complete requirements for a Bachelor of Science degree in microbiology prior to the hospital internship. Such students are not required to register at the University during their internship.

Freshman Year

	F	S
Math. 105*	3	
Chem. 105, 106	4	4
Zool. 105		3
Engl. 111, 112	3	3
Health 130		2
Undergrad. relig.	2	2
Soc. sci.	3	2
P.E.	½	½
Total Hours	15½	16½

Sophomore Year

	F	S
Chem. 151, 384-5	5	5
Physics 100	3	
Zool. 261, 263		4
Micro. 331		5
Hist. 170	3	
Undergrad. relig.	2	2
Hum.	3	
P.E.	½	½
Total Hours	16½	16½

*A student requiring Math. 101 prior to 105 should contact his adviser and receive alternate curriculum.

Junior Year

	F	S
Micro. 391		2
Micro. 491	1	1
Micro. 501, 511	5	4
Zool. 276 or Bot. 276		3
Zool. 417	3	
Chem. 223	5	
Undergrad. relig.	2	2
Hum.		3
Elective	1	2
Total Hours	17	17

Senior Year

	F	S
(Hospital Internship)		
Micro. 401, 402, 403	15	
Micro. 404, 405, 406		15
Total Hours	15	15

Courses

121. Introductory Microbiology. (3:2:3) F.S. (G-BS) Recommended for students seeking a liberal education in microbiology who do not have the prerequisites to take the more advanced courses.

A survey of fundamental biological processes observed in bacteria and other microorganisms; growth, reproduction, genetic changes, and metabolism, together with beneficial and harmful activities related to man and other forms of life.

311. Sanitation and Public Health. (2:2:0) F.S. Home Study also. (G-BS m) G. Sagers

Sanitary and public health practices. For students desiring a basic course in the role of the individual and the community in promoting health and preventing disease.

321. General Microbiology. (3:3:0) F.S. Home Study also. (G-BS m) Prerequisites: any chemistry course and any zoology or botany course.

The microbial world. Recommended for all students seeking a liberal education in microbiology who have completed the prerequisites.

322. General Microbiology Laboratory. (1:0:3) F.S. (G-BS m) Prerequisite: concurrent or previous registration in Micro. 321.

331. Microbiology. (5:3:6) F.S. (G-BS m) Prerequisite: any organic chemistry course. Beck, Bradshaw, Burton

Introduction to microbiology. The first microbiological course for students majoring or minoring in microbiology or medical technology and any other students having the prerequisites and desiring a comprehensive course in microbiology.

☐**Botany 335. Fungi.** (3:1:6)

361. Food Microbiology. (2:1:3) S. (m) Prerequisite: Micro. 121 or equivalent. Hoskisson

The microbiology of food.

371. Dairy Microbiology. (2:1:3) F. (m) Prerequisite: Micro. 121 or equivalent. Hoskisson

The microbiology of dairy products.

381. **Water and Sewage Microbiology.** (2:1:3) S. (m) Prerequisite: Micro. 121 or equivalent. Hoskisson
The microbiology of water purification and sewage disposal.

391. **Clinical Pathology.** (2:1:3) S. (m) Prerequisite: Micro. 331. Call, LeCheminant
Theory and application of diagnostic methods employed in hospital laboratories.

401, 402, 403. **Applied Clinical Diagnosis Laboratory.** (5:2-3:6-10 ea.) F.
Applied clinical work is done in an approved hospital during a year's practical internship. Hospital selected must be accredited by Council of Medical Education of the A.M.A. and its pathologist and radiographic technician recognized by the American Society of Clinical Pathologists. Credit is given on basis of a statement from the approved pathologist that student has satisfactorily completed work.

404, 405, 406. Applied Clinical Diagnosis Laboratory. (5:2-3:6-10 ea.) S.

411. **Epidemiology.** (2:2:0) S. Prerequisite: Micro. 121 or equivalent. Trent
Principles of epidemiology and control of communicable diseases.

451. **Bacterial Physiology.** (3:3:0) S. (m) Prerequisites: Micro. 331 and Chem. 384 or equivalent. Beck, Burton, R. Sagers
Function and structure in the bacterial cell.

491. **Undergraduate Seminar.** (1:1:0) F.S. (m)

495. **Special Problems.** (1-4:Arr.:Arr.) F.S. (m)
Individual work on research problems based on the previous preparation of the student.

501. **Pathogenic Microbiology.** (5:3:6) F.S. (m) Prerequisite: Micro. 331 or consent of instructor. Larsen
A study of the characteristics of pathogenic bacteria, viruses, rickettsia, yeasts and molds.

511. **Immunology.** (4:2:6) F.S. (m) Prerequisite: Micro. 501 or consent of instructor. Donaldson, North
Theories of immunity; training in serological methods.

521. **Industrial Microbiology.** (2:2:0) F. (m) Prerequisites: Micro. 331 and biochemistry. Larsen
The employment of microorganisms in industrial processes.

522. **Industrial Microbiology Laboratory.** (1:0:3) F. (m) Prerequisite: completion of or concurrent registration in Micro. 521. Larsen

531. **Virology.** (4:2:6) S. (m) Prerequisite: Micro. 501 or 511. North, Trent
Characteristics of viruses and virus diseases.

551. **Advanced Microbiology.** (5:3:6) S. (m) Prerequisites: Chem. 581 and 584 or consent of instructor. Beck, R. Sagers

581. **History of Microbiology.** (1:1:0) F. (m) Prerequisite: senior or graduate status. Larsen

611. **Advanced Immunology.** (2:2:0) S. Prerequisite: Micro. 511. Donaldson, North

☐**Agronomy 614. Advanced Soil Microbiology.** (3:2:3)

631. **Advanced Virology.** (2:2:0) Prerequisites: Micro: 531, 532; Chem. 581 or equivalent. North, Trent
Replication and biophysical characteristics of cytocidal and oncogenic animal viruses with emphasis on the molecular basis for the attendant changes in cell metabolism.

632. Cell and Tissue Culture Techniques. (2:0:4) Prerequisites: Micro. 531 and 532; Chemistry 581 or equivalent. North, Trent

A laboratory course in advanced techniques utilized in cell and tissue culture procedures.

641. Radioactive Tracer Techniques in Biology. (3:1:6) F. (m) Prerequisites: Physics 202 and consent of instructor. Beck, R. Sagers

651. Special Topics in Bacterial Metabolism. (2:2:0) F. Prerequisite: Micro. 551. Bradshaw, Burton, R. Sagers

661. Microbial Genetics. (4:2:6) F. Prerequisites: Micro. 331, a course in general genetics, and Chem. 581 or equivalent. Bradshaw

A study of genetic processes in bacteria and viruses, with specific emphasis on recombination, transduction, mutation, replication mechanisms, and related topics.

691. Graduate Seminar. (1:1:0) F.S.

695. Research. (1-5:Arr.:Arr.) F.S.

Instruction and laboratory experimentation in specific microbial disciplines.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.

795. Doctoral Candidate Research. (Arr.) F.S.

799. Dissertation for the Ph.D. Degree. (Arr.) F.S.

Students in microbiology laboratory

Military Science

Professor: Colonel Lyon (chairman, 182 Faculty Office Building).

Associate Professors: Lt. Col. Pulsipher, Major Mills.

Organization. The Department of Military Science (Army ROTC) offers instruction in general military science leading to a commission in the United States Army Reserve or, to selected individuals, or in the Regular Army. The courses cover either four years with one six-week summer camp or two years with two six-week summer camps. In addition to scheduled classroom instruction each semester, a weekly leadership laboratory is required.

Selection. Any male student qualifying for entrance into the University is eligible to enroll in the four-year program as a freshman. Sophomore students, whether or not they are enrolled in the four-year program, may apply for the advanced program (last two years), with processing to be completed during the sophomore year. If they are accepted to enter the two-year program as juniors, students who were not enrolled in the first two years must attend a basic summer camp (six weeks) prior to enrollment in the junior year. As a prerequisite for enrollment into the junior year, both four-year and two-year students must have academic standing and leadership potential approved by a board and must also qualify in an aptitude test and a physical examination.

Commissions. Upon receiving a baccalaureate degree, most Army ROTC students are commissioned as second lieutenants in the United States Army Reserve. A small number may be offered commissions in the Regular Army. In order to qualify for a commission upon graduation, the student must

1. Satisfactorily complete all military science courses (20 credit hours).
2. Satisfactorily complete certain nonmilitary courses (4 credit hours in both junior and senior years), elected by the student and approved by the professor of military science. Elective subjects will be selected in the following general areas:
    a. Effective communication
    b. Science comprehension
    c. General psychology
    d. Political development and political institutions

    (Special instructions regarding specific subjects will be issued to students.)
3. Attend a summer camp (six weeks) between junior and senior years. If enrolled in the two-year program, also attend an earlier summer camp before the junior year.
4. Meet the requirements of his college for a baccalaureate degree.

Pay and Equipment. Students enrolled in the junior and senior years of military science receive a retainer pay of $50 per month, approximately $250 for attending advanced summer camp, plus 6 cents per mile to and from summer camp location. Complete uniforms, equipment, and ROTC texts are furnished to all ROTC students.

Scholarships. A scholarship program is offered to students selected in national competition, and provides for books, tuition, laboratory fees and, in addition, pays the student $50 per month for not more than four years.

Major or Minor in Military Science. The major and minor in military science are planned to be approved in the future. See the chairman of the Department of Military Science for detailed information.

Active Duty. Most officers commissioned under the Army ROTC program currently serve two years on active duty. Those receiving commissions in the Regular Army, those receiving flight training during their senior year and those receiving army scholarship assistance have longer active duty obligations.

The following is the normal sequence of Army ROTC classes for four-year students. (Two-year students follow the junior and senior schedule.)

Freshman Year
(Course I—First-Year Basic)

	F	S
M.S. 110, 111	½	½
M.S. 120, 121	1½	1½

Sophomore Year
(Course II—Second-Year Basic)

	F	S
M.S. 210, 211	½	½
M.S. 220, 221	1½	1½

Junior Year
(Course III—First-Year Advanced)

	F	S
M.S. 310, 311	½	½
M.S. 320, 321	2½	2½

Senior Year
(Course IV—Second-Year Advanced)

	F	S
M.S. 410, 411	½	½
M.S. 420, 421	2½	2½

Senior students desiring to take flight instruction may arrange to do so through the professor of military science. This is noncredit instruction and obligates the student to remain on active duty as an officer longer than those who do not receive this instruction at government cost.

Out-of-phase students, students leaving for or returning from missions or student teaching, should consult the professor of military science.

Courses

110. Leadership Laboratory. (½:0:2) F.

111. Leadership Laboratory. (½:0:2) S.

120. Organization of the Army and ROTC; Individual Weapons and Marksmanship; U.S. Army and National Security. (1½:2:0) F.

121. Basic Military Science. (1½:2:0) S.

210. Leadership Laboratory. (½:0:2) F.

211. Leadership Laboratory. (½:0:2) S.

220. American Military History; Counterinsurgency Operations. (1½:2:0) F.

221. Map and Aerial Photo Reading; Introduction to Operations and Basic Tactics. (1½:2:0) S.

310. Leadership Laboratory. (½:0:2) F.

311. Leadership Laboratory. (½:0:2) S.

320. Leadership; Military Teaching Principles; Counterinsurgency Operations. (2½:3:0) F.

321. Branches of the Army; Small Unit Tactics and Communication; Precamp Orientation. (2½:3:0) S.

410. Leadership Laboratory. (½:0:2) F.

411. Leadership Laboratory. (½:0:2) S.

420. Operations; Logistics; Army Administration; Review of Map Reading. (2½:3:0) F.

421. Military Law; Role of the U.S. in World Affairs; Service Orientation. (2½:3:0) S.

Music

Professors: Davis, Earl, Goodman (chairman, C-550-D HFAC), Halliday, H. Laycock, Nordgren, Sardoni, Wheelwright, Woodward.

Associate Professors: Bradshaw, Cannon, Keeler, R. Laycock, Stubbs, Weinzinger, Williams.

Assistant Professors: Ballou, Belnap, Cundick, Curtis, Downs, Gibbons, Groesbeck, Manookin, Mason, Terry, Wakefield.

Instructors: Bos, Dalton, Forsberg, Kalt, McMurdie, Pollei, Smith.

The main objectives of the Department of Music are to help each student attain through music the skills and proficiencies of an artist while he is gaining a broad general education; to develop talent to the highest degree possible; to train music teachers for a noble profession; and through association with distinguished artists and teachers, to help all BYU students acquire discriminating taste and sound critical judgment.

The Bachelor of Arts degree is available with majors in music theory, applied music and music education. The Bachelor of Music degree is available with a major in music education. The master's and doctor's degrees may be taken in musicology, music theory, and music education. The Master of Music degree is available in piano, organ, and voice.

Students who desire to become composers, arrangers, or music copyists, or who wish to teach theory of music should pursue a major in music theory.

Every music major studies a certain amount of applied music in order to develop proficiency on his major instrument or in voice. Students who wish to become skilled performers in order to qualify themselves to assume positions in the concert or professional world should major in applied music.

The music education program provides professional preparation for prospective teachers of music in public schools, junior colleges, and universities. This would include the classroom teacher of general music, music theory, music history, class piano; elementary classroom music teachers; consultant resource and specialist for elementary teachers; supervisor; director of music; conductors of band, orchestra and choir. Other areas of professional placement that music education courses contribute to are music therapy, music industry, and private teaching. The master's degree program in elementary or secondary school music is designed to prepare teachers, supervisors, and music consultants who can help classroom instructors teach music effectively.

A cultural atmosphere seldom equalled is provided through concerts and recitals, including visiting groups and artists. The Department of Music sponsors more than 265 concerts and recitals each year, not including the lyceum service provided by student body activities and by lyceum committees.

There is a musical organization for every student at BYU who is interested in singing or in playing a musical instrument.

The Music Department offers courses to students desiring professional preparation in music theory, music education, and applied music; to students desiring a minor in music; and to students who seek a general cultural background in music.

Music Majors

1. **Degrees Offered.** A baccalaureate degree in music can be taken with a major in applied music, music theory, or music education (secondary). The curriculum for a major in applied music or music theory prepares for the Bachelor

of Arts degree. The curriculum for music education prepares for a Bachelor of Music degree or a Bachelor of Arts degree. The master's and doctor's degrees may be taken in musicology, music theory, music education, and applied music.

2. **Prerequisites.** The Music Department presupposes that a student who wishes to major in music will have had previous training in music before entering the University. In order to determine the degree of attainment in basic musical skills, each entering freshman and transfer student who desires to major in music will be given the Music Department entrance test which is given each semester during the orientation period and which is otherwise available, to be taken by music major candidates through the University Testing Service.

3. **Recital Attendance.** The Music Department presents annually over 265 recitals, concerts, and performances. These offerings are augmented by the University lyceum series of recitals and concerts by world-renowned artists and major musical performing groups. A music major is required to attend at least sixteen of these musical events per semester in residence. He is responsible to record his attendance at performances, using forms provided by the Music Department. At the end of each semester he returns the forms to the Music Department office, C-550 HFAC, where they are placed in his files.

4. **Piano Proficiency.** All music majors are required to take a preliminary examination in piano. This examination is provided during orientation and registration. Proficiency at the level of easy piano accompaniments is required. Those not meeting this proficiency standard must make up the deficiency in either private or group piano study.

5. **Proficiency Examinations on Major Instruments or Voice.** Proficiency examinations for each music major are given every spring during the first week in May. Students perform representative works studied during the year. The student submits as a part of the examination a repertoire list indicating which pieces are to be performed for the examination. Forms outlining minimum proficiency requirements for each instrument and each major are available at the Music Department office. A proficiency examination is taken by all first- and second-year students at the end of the second year, and by all music majors at the end of the third year. Applied majors have a senior recital in lieu of an examination in the fourth year.

6. **Curriculum for Music Majors.** As the first-year program is identical for all majors, the area of specialization within the Music Department is not chosen until the beginning of the sophomore year. Admissions to the various specialized programs will be based upon the following points:

a. **Applied Majors:** Strong achievement in applied music as evidenced in the proficiency examination given at the close of the first year of study.

b. **Music Theory Majors:** Strong achievement in Music 191-2 and 193-4 and generally good scholastic achievement in other courses.

c. **Music Education:** Good balanced achievement in all course work and substantial progress in applied music as evidenced in the proficiency examination given at the close of the first year of study. Continuation is dependent upon recommendation of individual instructors with whom the student has studied.

The first-year course work for all music majors includes

Course	F	S
Engl.	3	3
P.E.	½	½
Dev. assy.	½	½
Undergrad. Relig. 121, 122	2	2
Health 130		2
Mus. 191, 192	2	2
Mus. 193, 194	2	2

Course	F	S
Mus. 103	2	
Mus. 107, 108	(2)	(2)
(until proficiency achieved)		
Mus. 160p	2	2
Ensemble (band, orchestra, chorus, etc.)	1	1
Mus. 165 (for voice specialty)	(1)	

Music Minors

Those who wish an academic minor in music will take Mus. 101 or 103, 191, 193, 2 hours of ensemble, and 6 hours of electives in music. The Music Department offers no music minor leading to secondary teaching certification.

Elementary Music Education Minors

Prospective elementary school teachers who desire a minor in music are required to take Mus. 101, 191, 193, 202, 421, 4 hours of ensemble (band, orchestra, or chorus), and 4 hours of class or private study until a functional proficiency in piano and voice is demonstrated.

Music Minor in Organ

	Hours		
Music 159p and 160p	8	Music 468	2
Music 191	2	Music 201	2
Music 193	2	Total	18
Music 167	2		

Degree in Applied Music

To receive a Bachelor of Arts degree with a composite major in applied music, a student completes the first-year courses suggested above and the following courses during the remaining three years:

	Hours		Hours
Mus. 291, 292	8	Ensembles	8
Mus. 202	2	Mus. 160p	8
Mus. 484, 485	6	Mus. 360p	8
Mus. 472, 491	6	Mus. 481 (all but voice majors)	3

(Keyboard majors substitute Mus. 262, 263, 391, and 463 for part of the ensemble requirement. Other majors are encouraged to vary their ensemble experience.)

Majors in the various fields of applied music are required to take certain special classes in addition to the above requirements.

Piano majors take Mus. 565, 566, 567
Organ majors take Mus. 167, 468, 566, 569
Woodwinds majors take Mus. 368
Brass majors take Mus. 370
String majors take Mus. 372
Voice majors take Mus. 165, 166, 566, 567, 568

Voice majors are required to take a total of 16-20 hours in three languages: German, Italian, and French; 8-12 hours in one will fulfill the general education requirements; four hours are required in each of the other two.

Languages for other applied majors should be either from German, French, or Italian.

Each semester applied majors of sophomore standing or higher must audition before a panel from his major performance field. The audition at the end of the sophomore year determines his eligibility for advanced applied instruction (Mus. 360p). The audition at the end of the junior year determines his readiness for the preparation of the required senior recital. The senior recital is normally presented during the Spring Semester of the senior year and replaces the audition for that semester.

The following sequence of courses is recommended for majors in applied music:

Sophomore Year	F	S
Undergrad. relig.	2	2
Lang. (1st or 2nd year)	4	4
Mus. 202		2
Mus. 291, 292	4	4
Mus. 160p	2	2
Ensemble	1	1
P.E.	½	½
Dev. assy.	½	½
Hist. 170	3	
Total Hours	17	16

Junior Year	F	S
Undergrad. relig.	2	2
Lang. (voice majors)	4	4
Mus. 484, 485	3	3
Ensemble	1	1
Mus. 360p	2	2
Mus. 472		3
Electives (must include the special music classes)	2	1
Dev. assy.	½	½
Gen. ed.	2	
Total Hours	16½	16½

Senior Year	F	S
Music electives for voice or 481 for others	3	
Mus. 491		3
Ensemble	1	1
Mus. 360p	2	2
Dev. assy:	½	½
Electives (must include special music classes)		4
Gen. ed.	10	6
Total Hours	16½	16½

Degree in Music Theory

For a Bachelor of Arts degree with a composite major in music theory, a student is required to complete the following music courses or their equivalents:

	Hours
Music 191, 192, 193, 194, 291, 292, 391, 491, 471, 472, 481, 482	34
Music 103	2
Music 160p (functional piano, pass 2nd year proficiency)	4
Music 160p—360p on specialty (2nd year proficiency)	8
Music 202	2
Ensembles (at least 2 different ensembles)	4
Total	54

Music 484, 485 should be taken to satisfy the general education requirements in humanities and aesthetics.

The hours to be taken in individual or group instruction may be reduced if a student, as determined by entrance examinations, has already had considerable training in these areas. At the end of each year of individual instruction the student takes an examination on his major instrument or in voice to determine his level of achievement. For the examination, each candidate submits a list of his repertoire indicating compositions or studies especially prepared for the examination. Forms on which a record of the student's repertoire is kept and outlines of instrumental and vocal proficiency requirements are available at the Music Department office.

Majors in music theory participate in musical ensembles for a minimum of four semesters of undergraduate training. The student performs in at least two ensembles. A student whose specialty is a band or orchestral instrument takes two hours of instrumental ensemble and two hours of choral ensemble. A student whose specialty is voice sings in at least two choral ensembles.

The ability to play the piano is an indispensable tool for music theory majors; consequently, every major in music theory must pass a piano proficiency examination (second-year standards) during the first semester of residence or take group or individual piano instruction until he passes the examination.

The following sequence of courses is recommended for majors in music theory:

Sophomore Year	F	S
P.E.	½	½
Undergrad. relig.	2	2
Dev. assy.	½	½
Hist. 170		3
Soc. sci.	3	
Language 102		4
Mus. 291, 292	4	4
Mus. 160p (specialty)	2	2
Ensemble	1	1
Elective (Lang. 101 if needed)	4	
Total Hours	17	17

Junior Year

	F	S
Mus. 484, 485	3	3
Language 201	4	
Undergrad. relig.	2	2
Soc. sci.		2
Dev. assy.	½	½
Mus. 391	3	
Mus. 491		3
Mus. 160p or 360p (specialty)	2	2
Mus. 202	2	
Elective		4
Total Hours	16½	16½

Senior Year

	F	S
Biol. sci.	3	3
Phys. sci.	3	3
Dev. assy.	½	½
Mus. 471, 472	3	3
Mus. 481, 482	3	3
Elective	3	3
Total Hours	15½	15½

Degree in Music Education

To receive a Bachelor of Music degree with a composite music education major, a student is required to complete the following music courses or their equivalents:

Composite Music Major

	Hours
Mus. 191, 192, 193, 194, 291, 292, 472, 481	22
Mus. 363*, 364*, 367, 368, 370, 372	9
Mus. 202, 337, 374, 375, 378	10
Mus. 103, 484, 485	8
Ensemble	6
Private instruction on specialty	12
Mus. 165 (voice specialty)	(1)
Total Hours	67

*For students with instrumental specialties only. Those students taking voice as a specialty should take Mus. 566.

(This degree requires additional professional education courses to meet teaching certification requirements. For details see the Teacher Education Section of this catalog.)

Band instrumentalists who pursue one of the music education degrees participate at least one first semester in marching band and one second semester in varsity band, preferably on a minor instrument. Voice majors must sing in at least two types of choral ensembles, and string majors must perform at least four semesters with the orchestra.

For the baccalaureate degree with a composite major in music education the student pursues the following sequence of courses:

Sophomore Year

	F	S
Mus. 291, 292	4	4
Mus. 202		2
Mus. 363, 364 (566 for voice specialty)	1	1
Mus. 160p or 360p	2	2
Ensemble	1	1
Mus. 368	2	
Mus. 370		2
Mus. 337		2
Dev. assy.	½	½
Undergrad. relig.	2	
Hist. 170	3	
Lit. (humanities)		3
P.E.	½	½
Tchr. Ed. 301	2	
Total Hours	18	18

Junior Year

	F	S
Mus. 471 or 472		3
Mus. 484	3	
Mus. 160p or 360p	2	2
Ensemble	1	1
Mus. 372	2	
Mus. 367		1
Mus. 375		2
Dev. assy.	½	½
Undergrad. relig.	2	2
Phys. sci., biol. sci.	3	3
Mus. 374	2	
Mus. 377		3
Health Ed. 362	2	
Total Hours	17½	17½

Senior Year

	F	S
Mus. 481		3
Mus. 485		3
Mus. 378		2
Undergrad. relig.		2
Soc. sci. (psychology)		3
Aesthetics (3rd field hum.)		2
Mus. 479	8	
Tchr. Ed. 310	2	
Tchr. Ed. 403	4	
Tchr. Ed. 415	2	
Total Hours	16	15

Students electing a Bachelor of Arts degree with a composite music education major should take the above outline plus 12 hours of foreign language, 3 hours of physical science, 3 hours of biological science, and 2 hours of social science.

Every music education major must pass a functional piano proficiency examination before being permitted to student teach.

Music education majors also take an annual proficiency examination covering the materials studied in the student's private lessons on his major instrument or voice. The sophomore proficiency standards must be passed before a student is allowed to continue into advanced study (Mus. 360p). A minimum of one year of advanced study is required before graduation. The final proficiency examination is taken at the end of the year of advanced study at which time the student will have completed all applied music requirements for his degree.

Every music education major must have appeared a minimum of 30 minutes in solo and chamber music recital.

Courses

101. Introduction to Music. (3:3:0) F.S.Su. (G-HA)
Cannon, Dalton, Earl, Stubbs, Wakefield

Introduction to the fundamental concepts of melody, rhythm, harmony, form, styles, etc., as a basis for understanding and enjoying the masterpieces of the various musical eras. Open to all students without previous training in music.

103. Survey of Music Literature. (2:2:0) F.S.Su. (G-HA m) Prerequisite: for nonmusic majors and minors Mus. 101 or equivalent.
Cannon, Dalton, Kalt, Stubbs, Wakefield

An intensive study of the history of music including styles, forms, and mediums from the Middle Ages to the present. Required of all music majors during the first year of study.

105A,B. Class Piano for Beginners in Music. (2:2:0) F.S.Su. McMurdie

Minimum of one-hour daily practice required outside of the class. Instruction in notation of music and in keyboard technique, especially designed for prospective elementary school teachers.

106. Group Organ Instruction. (2:2:0) F.Su. Prerequisite: moderately advanced proficiency at the piano. Special fee. Keeler

Elements of organ manual and pedal technique, elementary repertoire, application to church service.

107, 108. Group Piano Instruction. (2:2:0 ea.) F.S. Keeler, McMurdie, Wakefield

Designed for those music majors and minors who cannot pass the piano proficiency examination. Not open to piano majors. Minimum of one-hour daily practice required outside of the class.

110. University Chorale. (1:0:5) F.S.Su. Weinzinger

116. Male Chorus. (1:0:5) F.S. Prerequisite: consent of director. Woodward

119. Women's Chorus. (1:0:5) F.S. Prerequisite: consent of director. McMurdie

125. A Cappella Choir. (1:0:5) F.S. Prerequisite: consent of director. Woodward

128. Opera Workshop. (1:0:5) F.S.Su. Prerequisite: consent of director.
Curtis, Earl

129. Opera Workshop Soloists. (1:0:5-10) F.S.Su. Prerequisite: consent of director.
Curtis, Earl

A class which provides opportunity for singers to become acquainted with opera literature through the performance of opera excerpts and, in conjunction with opera workshop chorus, produce complete operas on stage.

131. Oratorio Choir. (1:0:5) F.S. Prerequisite: consent of director. Halliday

134. Basic Choral Training. (1:0:2) F. Prerequisite: admission by audition.

The development of basic skills in choral singing and a knowledge of music fundamentals preparatory to membership in select choral groups.

135. Varsity and Marching Band. (1:0:5) F.S. Prerequisite: consent of director.
Ballou

138. Concert Band. (1:0:5) F.S.Su. Prerequisite: consent of director. Ballou

144. Theatre Orchestra. (1:0:5) F.S.Su. Prerequisite: consent of director.

147. Symphony Orchestra. (1:0:5) F.S.Su. Prerequisite: consent of director.
R. Laycock

148. Chamber Orchestra. (1:0:4) Prerequisite: consent of director. R. Laycock

Repertoire for small orchestra, chosen from all periods, will be explored and/or prepared for performance.

149. Collegium Musicum. (1:0:3) F.S.

Designed for advanced instrumentalists and vocalists (nonmusic majors as well as music majors) for credit or audit. Reading of music literature and study of performance practices, medieval to contemporary. Some reading performances for music classes and recital series.

150. Chamber Music: Brass, Piano, Ancient Instrument, String, Vocal or Woodwind Ensemble. (1:0:3) F.S.Su.

159p. Beginning Applied Instruction. (2:1:0) F.S.Su.

Fifteen, one-half hour lessons per semester. One to two hours of practice per day required. Special fee.

Brass—Trumpet, Cornet, French Horn, Trombone, Baritone, Tuba:
Ballou, R. Laycock

Harpsichord: Wakefield

Organ: Belnap, Keeler

Percussion: R. Laycock

Piano: Bradshaw, Cannon, Forsberg, Keeler, Kliass, McMurdie, Pollei, Smith, Wakefield

Recorder: Wakefield

Strings—Violin, Viola, Cello, String Bass:
Dalton, Goodman, Kalt, H. Laycock, Nordgren, Sardoni

Voice: Curtis, Downs, Earl, Halliday, Terry, Weinzinger, Woodward

Woodwinds—Flute, Oboe, Clarinet, Bassoon, Saxophone:
Bos, R. Laycock, Stubbs, Williams

160p. Intermediate Applied Instruction. (2:1:0) F.S.Su. Prerequisite: admission by audition.

Fifteen, one-half hour lessons per semester. One to two hours of practice per day required. Special fee. (For instructors see Mus. 159p.)

163. History and Development of the Piano. (3:3:0) F. (Offered 1966-67 and alternate years) Prerequisite: consent of instructor. Hansen

The musical and technical development of the piano and its ancestral instruments in their social context through the present day.

164. Piano Tuning Theory. (2:2:0) S. Prerequisites: Mus. 163, consent of instructor and special auditory test. Hansen

Theory of piano keyboard temperaments. Includes Pythagorean, Equal, Aron's (Just) and Marpurg's (Meantone), and Tool use.

165, 166. Diction for Singers. (1:1:1 ea.) F.S.Su. Prerequisite: should be taken concurrently with private or group voice study. 165 a prerequisite for 166. Required for all applied voice majors. Music education voice specialty required to take 165 only. Halliday

First semester: a study of English, Italian and Latin diction as related to singing. Second semester: a study of German and French diction as related to singing.

167. Organ Problems. (2:2:0) F.Su. Keeler

Registration, accompaniment playing, and related problems.

170. Group Vocal Instruction. (1:2:0) F.S.Su. Downs, Weinzinger

Class instruction for beginners in vocal production.

175. Piano Tuning Laboratory. (3:1:7) S. Prerequisites: Mus. 163 and concurrent registration in 164. Hansen

At least seven supervised hours of weekly piano tuning experience. A minimum of four pianos per week will be tuned by each student.

191, 192. First-Year Theory. (2:2:1 ea.) F.S. (m) Prerequisites: reading ability in music and one year of piano study or concurrent registration in Mus. 107, 108, or in private piano instruction.

Tonal harmony, part-writing, modulation, analysis, simple forms, keyboard. Must be taken with 193 and 194 respectively unless required proficiency in music skills is demonstrated.

193, 194. First-Year Music Skills. (2:0:4 ea.) F.S. (m) Prerequisites: reading ability in music and one year of piano study or concurrent registration in Mus. 107, 108, or in private piano instruction.

Ear training, diction, sight singing. Two 2-hour periods per week. Must be taken with 191 and 192 respectively unless proficiency in part-writing is demonstrated.

201. Baton Technique and Hymnody. (2:2:0) F.S.Su. Downs, Earl

Introduction to the fundamental concepts and skills of baton technique and congregational hymn singing and conducting. Open to all students.

202. Essentials in Conducting. (2:2:0) F.S.Su. Earl, Williams

The fundamental course for the development of complete body skills and coordinations necessary for the conductor. Required of all music majors and minors.

226. Music Fundamentals and Skills for Elementary Education Teachers. (2:2:1) F.S.Su. Davis, Gibbons, Groesbeck, Terry

Practical experiences in fundamentals and skills of music. Instruction in techniques of playing simple melody and harmony instruments and writing music symbols. Required of elementary education majors.

262, 263. Piano Accompaniment. (1:1:2 ea.) F.Su.

Study and practical application of the basic aspects of accompanying.

264. Piano Technology. (2:2:0) F. Prerequisites: Mus. 164, 175. Hansen

This class relates every part of the piano to the whole and teaches mechanical regulation of action, pedal traps, care and general maintenance.

275. Piano Tuning and Technical Laboratory. (3:1:7) F. Prerequisites: Mus. 164, 175. Hansen

More advanced tuning and mechanical mastery of piano regulating. Requires a minimum of four pianos weekly (7 hours) regulated or tuned.

276. Fine Tuning and Regulating Laboratory. (4:1:9) S. Prerequisites: Mus. 264, 275. Hansen

Fine tuning and regulating of both uprights and grands.

291, 292. Second-Year Theory. (4:4:3 ea.) F.S. Prerequisites: Mus. 192, 194.

Diatonic and chromatic harmony, modulation, ear training, dictation, sight singing, keyboard, chorale harmonization, form and analysis, elementary composition, contemporary compositional techniques.

310. University Chorale. (1:0:5) F.S.Su. Weinzinger

316. Male Chorus. (1:0:5) F.S. Prerequisite: consent of director. Woodward

319. Women's Chorus. (1:0:5) F.S. Prerequisite: consent of director. McMurdie

325. A Cappella Choir. (1:0:5) F.S. Prerequisite: consent of director. Woodward

328. Opera Workshop. (1:0:5) F.S.Su. Prerequisite: consent of director. Curtis, Earl

329. Opera Workshop Soloists. (1:0:5-10) F.S.Su. Prerequisite: consent of director. Curtis, Earl

331. Oratorio Choir. (1:0:5) F.S. Prerequisite: consent of director. Halliday

335. Varsity and Marching Band. (1:0:5) F.S. Prerequisite: consent of director. Ballou

336. Fundamentals and Techniques of Marching Band. (2:2:2) F.S. Prerequisites: Mus. 291, 292. Ballou, Elkington

Designed to help music education majors learn the techniques of planning, charting, and scoring music for marching band.

337. Music and Materials for Elementary Children. (2:2:1) F.S.Su. Prerequisite: Mus. 102. Davis, Gibbons, Groesbeck, Terry

Materials, methods, and problems pertaining to the teaching of music to elementary children. Required of all elementary education and music education majors.

338. Concert Band. (1:0:5) F.S.Su. Prerequisite: consent of director. Ballou

344. Theatre Orchestra. (1:0:5) F.S.Su. Prerequisite: consent of director.

347. Symphony Orchestra. (1:0:5) F.S.Su. Prerequisite: consent of director. R. Laycock

348. Chamber Orchestra. (1:0:4) F.S.Su. Prerequisite: consent of director. R. Laycock

349. Collegium Musicum. (1:0:3) F.S. Staff

Designed for advanced instrumentalists and vocalists (nonmusic majors as well as music majors) for credit or audit. Reading of music literature and study of performance practices, medieval to contemporary. Some reading performances for music classes and recital series.

350. Chamber Music: Brass, Piano, Ancient Instrument, String, Vocal, or Woodwind Ensemble. (1:0:3) F.S.Su.

360p. Advanced Major Instrumental Applied Instruction. (2:1:0) F.S.Su. Prerequisite: pass sophomore proficiency standards.

Fifteen 45-minute lessons per semester. Two hours of practice required per day. Special fee. (For instructors see Mus. 159p.)

363, 364. Vocal Workshop. (1:0:2 ea.) F.S. Prerequisite: Mus. 363 must be taken before 364. Curtis, Weinzinger, Woodward

Voice building, problems of solo and group singing, and survey of solo and small ensemble literature. Designed for music education majors with instrumental specialties only. Those students taking voice as specialty should not enroll in this class.

367. Percussion Workshop. (1:0:3) F.S. Prerequisite: Mus. 192 or equivalent.
Designed to help music education majors learn to play and to teach percussion instruments. Survey of materials.

368. Woodwind Workshop. (2:0:5) F.S. Prerequisite: Mus. 192 or equivalent. R. Laycock, Stubbs
Designed to help music education majors learn to play and to teach woodwind instruments. Survey of materials.

370. Brass Workshop. (2:0:5) F.S. Prerequisite: Music 192 or equivalent. Ballou, Mason
Designed to help music education majors learn to play and to teach brass instruments. Survey of materials.

372. String Workshop. (2:0:5) F.S. Prerequisite: Mus. 192 or equivalent. Dalton, Sardoni
Designed to help music education majors learn to play and to teach string instruments. Survey of materials.

374. Choral Practicum. (2:0:5) F.S.Su. Prerequisites: Mus. 165, 202, 292, 364, or equivalent. Earl, Woodward
Designed for music education majors. Experience in choral conducting and singing of typical school materials. Observation and application of rehearsal techniques.

375. Instrumental Practicum. (2:0:5) F.S.Su. Prerequisites: Mus. 202, 292, 367, 368, 370, 372, or equivalent. R. Laycock, Sardoni
Experience for music education majors in orchestra and band conducting and playing of school materials on the students' minor instruments. Observation and application of rehearsal techniques.

377. Secondary Teaching Procedures. (3:3:1) F.S. Prerequisite: Tchr. Ed. 301. Gibbons, Mason
The development of music education concepts; philosophy, objectives, principles, management and methodology. Fourteen hours of participation in the laboratory school is required.

378. General Music Practicum. (2:2:5) F.S. Prerequisite: Mus. 337. Terry
Designed for music education majors. Experience in materials, methodology, and management of the general music education program in public school.

391. Harmony at the Keyboard. (3:3:0) F.S.Su. Prerequisites: Mus. 192 and moderately advanced keyboard technique. Keeler
Harmonization of figured and unfigured basses and other voices; cadences, sequences, transpositions, modulations, and improvisations at the keyboard.

392. Keyboard Harmony. (3:3:0) S. Prerequisite: Mus. 391. Keeler
Continuation of keyboard harmony material of Music 391, emphasizing secondary triads and seventh chords, nonharmonic tones, secondary dominants and diminished sevenths, augmented triads and augmented sixths, chromatic modulation, and improvisation. Harmonizing of chorales and figured basses.

421. Materials and Music Literature for the Elementary Child. (1:1:1) F.S. Prerequisites: Mus. 226, 337. Davis, Groesbeck
Designed to increase the use of materials and music literature for the elementary child and develop a basic repertoire of children's music for the elementary education music minor.

463. Piano Accompanying. (1:0:3) F.S.Su.

468. Organ Problems. (2:2:0) S. Prerequisites: Mus. 167, advanced standing as an organ student, and consent of instructor. Keeler

Registration, accompaniment playing, and related problems.

471. Sixteenth-Century Counterpoint. (3:3:0) F.Su. Prerequisite: Mus. 292. Belnap, Nordgren

472. Eighteenth-Century Counterpoint. (3:3:0) F.S.Su. Prerequisite: Mus. 292. Bradshaw, Cundick, Manookin

479. Secondary Student Teaching. (8:full day, 1st and 2nd blocks of semesters) F.S. Prerequisite: Mus. 377. Gibbons, Mason

See Tchr. Ed. 479.

481, 482. Orchestration. (3:3:0 ea.) F.S.Su. Prerequisite: Mus. 292. Bradshaw, Sardoni, Williams

484, 485. History of Music. (3:3:0 ea.) F.S.Su. (G-HA) Prerequisites: Mus. 192 or Mus. 101, 226, and 103 or equivalent. Cannon, Wakefield

491. Analytical Techniques. (3:3:0) S.Su. Prerequisite: Mus. 292. Manookin, Nordgren

Development of skill in recognizing processes by which the basic elements of music are organized into compositions of various forms and styles.

537. Music for Elementary School Teachers. (2:2:0) Prerequisites: Mus. 226, 337, or elementary teaching experience. Davis, Groesbeck

Experiences in teaching and various music activities in the elementary school.

565. Piano Pedagogy. (2:2:0) S. Prerequisite: advanced standing as a pianist. Keeler

Methods, materials, and problems in teaching piano.

566A,B. 567A,B. Applied Music Literature. (2:2:0 ea.) F.S.Su. Prerequisite: senior standing as an applied music major. Belnap, Keeler, Pollei, Smith, Weinzinger, Woodward

Intensive study of literature for the major instrument taken by senior and graduate students in applied music with sections for voice, piano, and organ.

568. Vocal Pedagogy. (2:2:0) S.Su. Prerequisites: Mus. 166 and advanced ability as a singer. Halliday

569. Organ Pedagogy. (2:2:0) S. Prerequisite: Mus. 468. Keeler

587, 588. Composition. (3:3:0 ea.) F.S.Su. Prerequisite: Mus. 292. Bradshaw

601. Music in the Elementary School. (2:2:0) F.Su. Prerequisites: Mus. 337 and the equivalent of an elementary education teaching minor in music. Davis

603. Music in the Junior High School. (2:2:0) S.Su. Prerequisite: Mus. 601. Davis, Goodman

605. Influence of Music on Behavior. (3:3:0) F.Su. Prerequisite: general psychology, sociology, or equivalent. Davis, Goodman

610. Supervision and Administration of Music in the Public Schools. (2:2:0) S. Su. Davis, Goodman

612. Music Education in Society. (3:3:0) S.Su. Prerequisites: Mus. 484, 485, or equivalent. Davis, Goodman

613. Basic Concepts in Music Education. (2:2:0) F.Su. Goodman

Required of all candidates for graduate music degrees.

615. Vocal Methods, Materials, and Resources. (2:2:0) F.Su. Prerequisite: Mus. 479 or equivalent. Halliday, Woodward

616. Instrumental Methods, Materials, and Resources. (2:2:0) S.Su. Prerequisite: Mus. 479 or equivalent. Goodman

620. Advanced Instrumental Conducting. (2:3:3) F.Su. Prerequisites: Mus. 292, 374, 375, 485, or equivalent. R. Laycock, Sardoni

621. Advanced Choral Conducting. (2:3:3) S.Su. Prerequisites: Mus. 166, 292, 364, 374, 375, 485, or equivalent. Earl, Halliday, R. Woodward

625. Summer Music Clinic. (2:4:4) (Two weeks during clinic) Su.

May be counted as either music education or applied music.

630A,B,C. Special Lectures in Music Education. (2:2:0 ea.) Su. Prerequisite: certification in music plus teaching experience.

635. Musical Research Techniques. (3:3:0) F.Su. Prerequisite: graduate standing or consent of instructor. Cannon, Earl

Required of all candidates for graduate music degrees. Should be taken in first semester of graduate work.

637. Medieval and Renaissance Music. (4:4:0) F.Su. Prerequisites: Mus. 484, 485, or equivalent. Cannon

638. Music of the Baroque Period. (3:3:0) F.Su. Prerequisites: Mus. 484, 485, or equivalent. Cannon, Wakefield

639. Classic and Romantic Music. (4:4:0) S.Su. Prerequisites: Mus. 484, 485, or equivalent. Cannon, Wakefield

641. Special Lectures in Musicology. (3:3:0) F.S.Su. Prerequisites: Mus. 484, 485, or equivalent.

648. Collegium Musicum. (1:0:3) F.S. Prerequisite: consent of director.

Practical experience in designing programs, outlining music and preparing program notes for music from the medieval to modern times.

652. History of Notation and Paleography. (3:3:0) F. (Offered 1966-67 and alternate years) Prerequisites: Mus. 484, 485, 637, or equivalent. Cannon

656. Hymnology. (2:2:0) S. Prerequisites: Mus. 484, 485, or equivalent.

660p. Graduate Applied Instruction. (2:1:0) F.S.Su. Prerequisite: completion of undergraduate applied proficiency requirements and audition.

Fifteen 45-minute lessons per semester. Three hours of practice required per day. Special fee. (For instructors see Mus. 159p.)

663. Solo Recital. (2:1:0) F.S.Su. Williams

One period per week with private teachers, 2-3 hours per day plus public performance of the recital. Required of all graduate students minoring in applied music.

673. Advanced Problems in Musical Structure. (3:3:0) F.Su. Prerequisites: Mus. 491 and 472. Bradshaw, Manookin

675. Music of the Contemporary Period. (3:3:0) S.Su. Prerequisite: Mus. 673. Bradshaw, Manookin

686. Pedagogy of Music Theory. (3:3:0) F.Su. Prerequisite: Mus. 292. Nordgren

687, 688. Composition. (3:3:0 ea.) F.S.Su. Prerequisite: Mus. 588 or equivalent. Bradshaw

693. Pro-Seminar in Music. (2:2:0) S.Su. Prerequisites: Mus. 484, 485, 635, or equivalent, and approval of advisory committee. Davis, Earl, H. Laycock

Required of all candidates for graduate music degrees.

694A,B. Independent Readings. (2:0:6 ea.) F.S.Su. Prerequisite: Mus. 693 or equivalent.

697. Recital for Master of Music Degree. (4:Arr.:Arr.) Prerequisites: approval of advisory committee and graduate music faculty. Belnap, Halliday, Keeler, Pollei, Smith, Williams, Woodward

Required of all Master of Music degree candidates. Includes the preparation of a public recital and a research paper on specific aspects of the recital.

698. Composition for Master's Degree. (2-6:Arr.:Arr.) F.S.Su. Prerequisite: approval of the Music Department graduate committee based upon evidence of ability in composition as manifested in a preliminary work. Bradshaw

To be submitted in lieu of a thesis by candidates for the master's degree majoring in composition.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su. Prerequisite: approval of Music Department graduate committee.

Candidates for the master's degree are required to show competence in writing and research before work is begun on the thesis.

753. Advanced Problems in Notation. (3:3:0) (Offered 1966-67 and alternate years) Prerequisite: Mus. 652. Cannon

754. History of Musical Instruments. (3:3:0) F. (Offered 1967-68 and alternate years) Prerequisites: Mus. 484, 485, or equivalent. Wakefield, Williams

785. Historical Aspects of Music Theory. (3:3:0) S.Su. (Offered 1969-70 and alternate years) Prerequisite: Mus. 292. Nordgren

794A,B,C,D. Seminar in Music. (3:3:0 ea.) F.S.Su. Prerequisites: Mus. 635, 693, or equivalent, and approval of graduate advisory committee.

799. Dissertation for Ph.D. Degree. (Arr.) F.S.Su. Prerequisite: approval of graduate advisory committee.

Students receive help in music class

Nursing

Assistant Professors:	Bethers, Crane, Featherstone, Hammond, Hood, Kennington, Likes, Lyons, Merrill, Murphy (acting dean, 2240 SFLC), Potter, Schmidt, Young.
Instructors:	Alward, Edmunds, Kingsolver, Long, Louk.
Special Instructor:	Brumfield, Larsen.

Requirements for a Composite Major and Minor

Baccalaureate Degree

First Year

	F	S	Su
Undergrad. Relig. 121, 122	2	2	
Engl. 111, 112	3	3	
Chem. 101, 151	4	5	
P.E.	½	½	½
Micro. 121	3		
Sociol. 111			3
Psych. 111	3		
Food & Nutr. 115			2
Physics 100		3	
CDFR 210		3	
Zool. 261, 262			5
Total Hours	15½	16½	10½

Third Year

	F	S
Undergrad. relig.	2	2
Sociol. 403	2	
Nurs. 351	4	
Nurs. 361	6	
Nurs. 375		6
Nurs. 385		5
Hum.	3	
Total Hours	17	13

Second Year

	F	S
Undergrad. relig.	2	2
P.E.	½	
Nurs. 202	6	
Nurs. 212	6	
Nurs. 300		6
Nurs. 310		5
Hist. 170		3
Hum. elective	3	
Total Hours	17½	16

Fourth Year

	F	S	Su
Undergrad. relig.	2	2	
Nurs. 421 (Block)	3		
Nurs. 431 (Block)	4		
Nurs. 475 (Block)	2		
Nurs. 485 (Block)	4		
Nurs. 478		3	3
Nurs. 488		6	6
Nurs. 490		3	3
Micro. 311	2		
Total Hours	17	14	12

Plan "A" is shown above. Plan "B" follows the same sequence of classes but the final course is taken in the summer of the fourth year, with the classes listed for the summer of the first year being taken in the fall of the second year, etc.

BACCALAUREATE-DEGREE PROGRAM IN NURSING

Courses

202. Introductory Medical-Surgical Nursing. (6:6:0) F.S. Prerequisites: Micro. 121, Physics 100, Food & Nutr. 115, CDFR 210, Zool. 261 and 262, Chem. 101 and Chem. 151, Psych. 111, Sociol. 111. Edmunds, Featherstone, Kingsolver, Long, Louk, Lyons

Introduction to nursing which includes the emotional, spiritual, and physical as well as social needs of patients in relationship to the essentials of medical-surgical nursing, with emphasis on the patient as a person, the nurse as a person, and the maintenance of health and life.

212. Introductory Medical-Surgical Laboratory. (6:0:18) F.S. Prerequisite: concurrent registration in Nurs. 202. Edmunds, Featherstone, Kingsolver, Long, Louk, Lyons, Schmidt

Selected laboratory experience on pediatric, geriatric, medical and surgical hospital units to develop nursing skills and implement nursing principles relative to basic patient's needs, administration of medications, physical therapy, nutrition, diagnostic procedures and oxygen therapy.

288. Family Health and Home Nursing. (1:1:1) F.S. Schmidt

For nonmajors. Essential knowledge and attitudes about healthful family living. Skills in giving home nursing care to the sick or injured. Essentials of maternal health and child care.

300. Intermediate Medical-Surgical Nursing. (6:6:0) F.S. Prerequisite: Nurs. 202. Crane, Hammond

Continuation of medical-surgical nursing principles with an emphasis on body metabolism, reproductory development, sensory perception, and cardiovascular and orthopedic studies.

310. Intermediate Medical-Surgical Nursing Laboratory. (5:0:15) F.S. Prerequisite: concurrent registration in Nurs. 300. Crane, Hammond, Kingsolver, Long, Louk

Experience in providing direct nursing care to patients with acute orthopedic, endocrine, metabolic, circulatory and cardiac problems. Principle orientation.

351. Maternal and Child Health Nursing. (4:4:0) F.S. Prerequisites: Nurs. 202 and 300, CDFR 210, concurrent registration in Sociol. 403. Alward, Potter

Family-centered study of parenthood with a focus on mothers throughout the maternity cycle, newborn infants, and children.

361. Maternal and Child Health Nursing Laboratory. (6:0:18) F.S. Prerequisite: concurrent registration in Nurs. 351. Potter

Experience with families in physicians' offices, clinics, schools, and direct nursing care of mothers and children in hospital divisions.

375. Advanced Medical-Surgical Nursing. (6:6:0) F.S. Prerequisite: Nurs. 300. Kennington, Larson, Likes

Advanced study of medical-surgical nursing principles emphasizing complex problems related to sensation, motion, body regulation, and maintenance of health and life.

385. Advanced Medical-Surgical Nursing Laboratory. (5:0:15) F.S. Prerequisite: concurrent registration in Nurs. 375. Kennington, Larson, Likes

Advanced experience in providing rehabilitative nursing care for children and adults with complex problems of locomotion, cerebral and spinal cord dysfunction, cardiovascular, endocrine and fluid balance impairment.

421. Mental Health and Psychiatric Nursing. (3:6:0) F.S. (Eight-week block) Prerequisites: Psych. 111 and Sociol. 111, Nurs. 202, 212, 300, 310, 351, 361.

Introduction to theoretical concepts basic to the knowledge and understanding of psychiatry and psychiatric nursing. It includes therapeutic nursing of the mentally ill patient, rehabilitation and the promotion of mental health and study of interpersonal relationships.

425. Home Nursing Instructorship. (2:2:1) F.S. Prerequisite: completion of or concurrent registration in Tchr. Ed. 377 or consent of instructor. Schmidt

Designed to develop skill in performing and teaching basic home nursing procedures necessary in care of the sick and injured and in mother and baby care. Completion of the course certifies students to teach a Red Cross class in these two areas.

431. Mental Health and Psychiatric Nursing Laboratory. (4:0:24) F.S. (Eight-week block) Prerequisite: concurrent registration in Nurs. 421.

Laboratory course taught concurrently with Nurs. 421 at the Utah State Hospital.

475. Principles of Public Health Nursing. (2:4:0) F.S. (Eight-week block) Prerequisites: Nurs. 351 and concurrent registration in Nurs. 485. Brumfield, Merrill

Concepts and organization of nursing in the home and community. The principles of comprehensive family service in home, school, and community.

478. Senior Comprehensive Nursing. (3:3:0) S.Su. Prerequisites: Nurs. 375, 421, and 475. Bethers, Featherstone

Principles of nursing leadership with implications for comprehensive patient care.

485. Public Health Nursing Laboratory. (4:0:24) F.S. (Eight-week block) Prerequisite: concurrent registration in Nurs. 475. Brumfield, Merrill

Experience in public health nursing agency in giving comprehensive nursing care to families and in working with allied professional workers and community agencies. For this course each student must have her own transportation.

488. Senior Comprehensive Nursing Laboratory. (6:0:18) S.Su. Prerequisite: concurrent registration in Nurs. 478. Bethers, Featherstone

An analytical approach to professional responsibilities and functions with emphasis on nursing leadership and comprehensive patient care.

490. Senior Seminar in Professional Problems. (3:3:0) S. Prerequisite: senior standing in nursing. Murphy

A survey of the development of nursing and the social obligations and professional problems confronting the young graduate nurse. The course includes the scope of existing vocational opportunities, qualifications required, legal aspects of nursing, and professional responsibilities in nursing organizations.

ASSOCIATE-DEGREE PROGRAM IN NURSING

Curriculum Plan

First Year

	Su	F	S
Engl. 111	3		
Chem. 100	3		
Micro. 121	3		
Undergrad. Relig. 121	2		
P.E.	½		
Nurs. 223		7	
Zool. 261		3	
Zool. 262		2	
Food & Nutr. 115		2	
Undergrad. Relig. 122		2	
Nurs. 224			7
Psych. 111			3
Engl. 112			3
Undergrad. Relig. 211			2
	11½	16	15

Second Year

	F	S
Nurs. 225	10	
CDFR 210	3	
Sociol. 111	3	
Nurs. 226		10
Hist. 170		3
P.E.		½
Undergrad. Relig. 212		2
	16	15½

223. Fundamentals of Nursing. (7:3:16) F. Prerequisites: Chem. 100, Engl. 111, Micro. 121.

Emphasis is placed on scientific principles and maintenance of normal physiology. Pertinent nursing-care problems are identified and physical, emotional, social, intellectual, and spiritual needs of a person in health and illness are discussed. Nursing is adapted to the needs of the child, the adult, and the senior citizen. Some principles of interpersonal relations and communications are introduced early to serve as a basic foundation for all nursing. Skill is developed in basic nursing procedures.

224. Physical and Mental Illness I. (7:3:16) S. Prerequisites: Nurs. 223; Zool. 261 and 262; and Food & Nutr. 115.

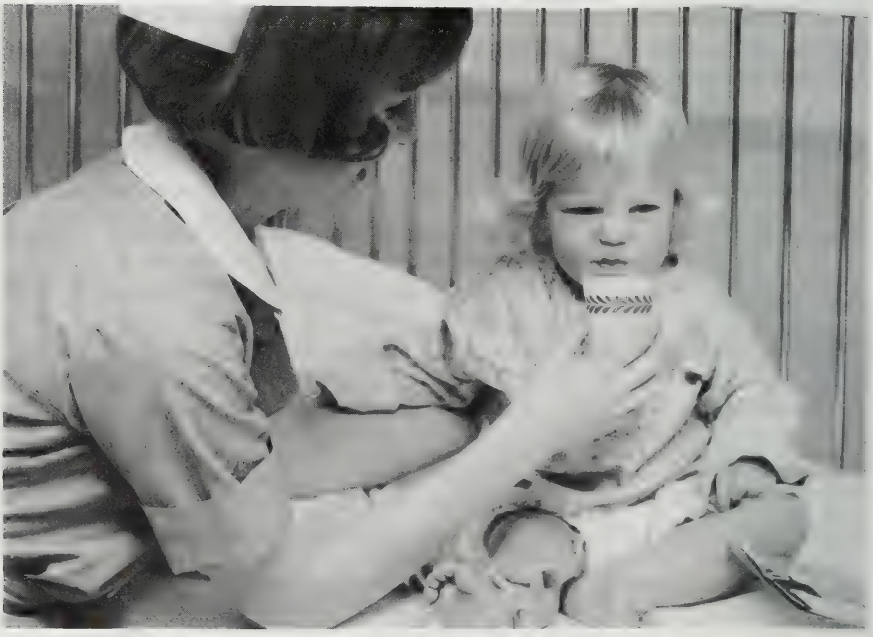
Provides opportunity for furthering nursing skills and understandings as identified in the basic nursing-care problems. Implementation of physical, biological, and behavioral science concepts is continued as they relate to the care of all age groups.

225. Parent and Child Health. (10:5:20) F.S. Prerequisites: Nurs. 223, 224, and Engl. 112.

This course is designed to introduce the student to the role of the nurse in parent and child care as related to the child-bearing family. The student is helped to gain knowledge and understanding of the basic needs in the nursing care of the various members of the family in health and illness.

226. Physical and Mental Illness II. (10:5:20) F.S. Prerequisites: Nurs. 223, 224, and Engl. 112.

This course is designed to promote recognition of nursing-care problems of the emotionally and physically ill, and to develop skill in observation, understanding, modification and reporting of behavior. Also, opportunity is provided to function as a member of the nursing team, to carry out health teaching, and to participate in rehabilitation of the long-term patient.



Student nurse giving sour juice to patient

Philosophy

Professors: Madsen, Riddle (coordinator, 123 S), Yarn.

Associate Professor: Horsley.

Assistant Professor: Warner.

Instructor: Cook.

No course in this area carries general education credit for religion.

An undergraduate minor may be obtained in this area, but no major is available. A graduate minor may be obtained in philosophy; for further information in this regard refer to the Graduate School Catalog.

Requirements for a Philosophy Minor

An undergraduate philosophy minor requires a minimum of 16 hours of course work which must include all of the following courses: Phil. 380, 381, 470, and 471.

Courses

380. Survey of Philosophy. (3:3:0) F.S.Su. Home Study also. (G-HA m)
Introduction to types, fields, and problems of philosophy.

381. Deductive Logic. (2:2:0) F.Su. (G-HA m) Cook, Warner
Formal aspects of language and deductive logic.

382. Inductive Procedures. (2:2:0) S. (G-HA m) Riddle
Scientific methods.

384. Metaphysics. (2:2:0) F. (m) Prerequisite: Phil. 380. Warner
A study of the categories in which reality has been conceived, including time, space, substance, existence, causation, and process.

385. Ethics: Plato to Dewey. (2:2:0) F.Su. (G-HA m) Yarn
An historical approach to the major ethical theories of the western world.

386. Introduction to Philosophy of Religion. (2:2:0) F. (G-HA m) Madsen, Yarn
A comparative study of major assumptions in religious thought.

388. Aesthetics as Philosophy. (2:2:0) F. Prerequisite: Phil. 380. Horsley, Madsen
Aesthetic theory from Plato to Tolstoy.

470. History of Ancient Philosophy. (4:4:0) F.Su. (m) Prerequisite: Phil. 380. Yarn
Western philosophy from the 6th century B.C. to the 14th century A.D.

471. History of Modern Philosophy. (4:4:0) S.Su. (m) Prerequisite: Phil. 380. Yarn
Western philosophy from the 15th century to the 19th century.

472. Contemporary Ethics. (2:2:0) S.Su. (m) Madsen, Patch
Examination of the meaning and function of moral judgments and the bases of ethical commitment.

473. Philosophy of Science. (2:2:0) F. (m) Riddle
Examination of the conceptual framework of modern science.

474. Types of Religious Philosophy. (2:2:0) F. (G-HA m) Madsen, Yarn
Survey of philosophical bases of Christian religion.

475. Contemporary Anglo-American Philosophy. (2:2:0) F.S.Su. (m) Madsen
Men and movements in naturalism and logical positivism.

476. Contemporary Continental Philosophy. (2:2:0) F.S.Su. (m) Madsen
Twentieth-century developments in existentialism, phenomenology, and Marxism.

477. Scholasticism, Humanism, Mysticism. (2:2:0) F.S.Su. (m) Horsley

483. Problems of Knowledge. (2:2:0) F. (G-HA m) Riddle
Analysis of how experience becomes knowledge.

484. Philosophy of Language. (2:2:0) (m) Prerequisite: Phil. 380. Recommended: Phil. 381. Warner
A study of traditional theories of meaning and truth and the bearing of these and contemporary theories on philosophical issues and everyday language use.

486. Philosophy of Mind. (2:2:0) (m) Prerequisite: Phil. 380. Warner
A study which includes the concepts of mind and consciousness and their relationship to the idea of the brain, the self and self-knowledge, and action and free agency.

498. Readings in Philosophy. (1-2:1-2:0) F.S.Su. (m)

591. Seminar: Philosophical Analysis. (2:2:0) S. Riddle

592A,B. Seminar in the History of Philosophy: Ancient and Medieval. (2:2:0 ea.) S.Su. Prerequisite: Phil. 470. Warner, Yarn

592C,D. Seminar in the History of Philosophy: Modern. (2:2:0 ea.) S.Su. Prerequisite: Phil. 471. Warner, Yarn

593. Seminar: Philosophy of Religion. (2:2:0) S.Su. Madsen

594. Seminar: Philosophy of Science. (2:2:0) S. Riddle

688. Readings in Philosophy. (1-4:1-4:0) F.S.Su.

Physical Education

Professors:	Bangerter, Geddes (chairman - Men, 270 SFH), Hart, Hartvigsen, Holbrook (chairman - Women, 296 RB), C. Jensen, E. Kimball.
Associate Professors:	Allsen, Call, Carver, Roundy, Watts.
Assistant Professors:	Dixon, A. Heaton, Hein, Hirst, Jacobson, J. Jensen, Jones, Moe, Robison, Tuckett, Uibel, Valentine, Wallace.
Instructors:	Apostol, Bunker, Cryer, Davis, Edwards, Earnest, Felt, Francis, Hansen, Hawkes, Hudspeth, R. Kimball, Lindley, Michaelis, Morgenegg, Payne, Schwendiman, Startin, Tucker, Witbeck.
Special Instructors:	Gibb, Roylance, Uzelac.

Each student registering at the University is required to complete one physical education activity course in the 100-199 series during each semester of his freshman and sophomore years. Men physical education majors and minors fulfill this requirement by completing courses 231 to 237. Women physical education majors and minors fulfill the requirement by completing courses 181, 182, 187 and 188. Transfer students must either have completed equivalent courses or they must complete them before graduation.

Exceptions: (1) Students who will complete a major in engineering science together with requirements for an air science commission are not subject to the physical education requirement. (2) Engineering science students who withdraw from the air science program after two years are exempt from one semester credit of physical education.

A large variety of activity courses are available. Participation in these courses provides students with increased sports knowledge, organic development, neuromuscular skill, and social contact in game and team situations. Most of the activities have great carry-over value in later life.

Men students are required to make a $3.00 deposit on a towel and a padlock, $2.50 of which is refundable at the close of the school year upon return of padlock and the last towel issued.

Any student desiring exemption from physical education for medical reasons must obtain an excuse from a Student Health Center physician and present it to the chairman of the physical education department. Adaptive physical education courses are held each semester for handicapped students. Students with handicaps are encouraged to contact the department for special counseling.

UNDERGRADUATE REQUIREMENTS (MEN AND WOMEN)

I. Physical Education — Men

A. All students majoring in physical education must complete the following general education requirements of the University:

	Hours
1. Biological Science:	
Zool. 105, 212 or 213	3
Zool. 261, 262	5
2. Physical Science:	
Chem. 100, 101, or 105	3
Physics 100 or 105	3

3. Social Science:	
Psych. 111	3
Sociol. 111 or 112	3
4. Humanities:	
Speech & Dram. Arts 102	2
5. Mathematics - Science - Language:	
Math. 105 or 111	3
P.E. 462	3
6. Religion:	
Undergrad. Relig. 365	2
7. Physical Education: Two of the following courses:	
P.E. 231, 232, 233, 234, 235, 236, 237	2

B. Physical Education Major Requirements.

Students may major in physical education by completing 38-40 credit hours of the following:

1. 29-30 credit-hour requirement of the following (core):
   P.E. 180, 181, 231, 232, 233, 234, 235, 236, 237, 286; either 201 or 330; 341 and 344; and two of the following: 370, 371, 372, 373, 374; 378, 413, 446, 464.
2. Nine credit hours are required from the following list in addition to the above requirements:
   P.E. 182, 250, 264, 265, 280, 314; no more than two of the following: 370, 371, 372, 373, 374; any of the following: 406, 411, 449, 474, 547; Health 381; and Rec. Ed. 570. (Health 381 is strongly recommended especially for nonhealth minors planning to teach junior high school.)

C. Physical Education Minor Requirements.

Students may minor in physical education by completing the following courses:

1. Secondary (18-20 credit hours)
   P.E. 180; 181 or 182; 235; two of the following: 231, 232, 233, 234, 236, 237; 201 or 330; 341 and 344; two of the following: 370, 371, 372, 373, 374; and one of the following: 314, 413, 446, 464.
2. Elementary (15-16 credit hours)
   181, 182, 201 or 330, 231, 232, 234, 235, 237, *341; one of: 372, 373; Health 121.
   *Prerequisite Zool. 261, 262.

D. Composite Major Requirements.

Students may choose a composite major by having a dominant area in physical education, with related areas in health education and recreation education; or by choosing a dominant area in health education with related areas in physical education and recreation education. Students who choose a composite major with a dominance in physical education must also fulfill the general education requirements specified in section "A" above. The requirements for a composite major are as follows:

1. Dominant area in physical education: two of the following: PE. 180; 181, or 182; all of the following: 231, 232, 233, 234, 235, 236, 237; either 201 or 330; 341 and 344; and two of the following: 370, 371, 372, 373, 374; 378, 413, 446, and 464 (total 28 hours).
2. Related areas in physical education: two of the following: P.E. 231, 232, 233, 234, 235, 236, 237; either 201 or 330; 341 and 344; and one of the following: 370, 371, 372, 373, 374 (total 12 hours).

II. Physical Education — Women

Candidacy Test: All prospective major and minor students are assigned to physical education classes on the basis of performance on the candidacy test.

A. Physical Education Major Requirements (Certification).

All women students majoring in physical education are to take the courses listed in the following core program:

P.E. 241, 242, 243, 244, 286, 330, 341, 344, 378W, 388, 446; either 375 or 376; Health 121 (total 27 hours).

In addition, women physical education majors must choose either a sports emphasis or a dance emphasis.

1. Sports Emphasis:
   Swimming (1 hour); P.E. 207, 245, 461, 472; any two of the following: Youth Leadership 378, P.E. 314 or 413, Health 381 (total 14-15 hours).
2. Dance Emphasis:
   P.E. 185, 186, 287, 288, 380, 383, 387, 389, 486 (total 13 hours).

Note: The following courses (which will help meet the general education requirements of the University) are prerequisites to required major courses in women's P.E.: P.E. 181, 182, 187, 188; Zool. 105, 261, 262. (Speech and Dram. Arts 102 and 121 are recommended by the State of Utah for certification. They will fill the general education humanities requirements. Health Education 381 is strongly recommended for those planning to teach in secondary schools.)

B. Composite Major Requirements (Certification).

A composite major consists of 28 semester credits in physical education and 16 credits in each of two of the following related fields: health education, driver and safety education, recreation, and dance. The courses for the composite major are as follows:

1. Dominant area in physical education (28 hours):
   P.E. 207, 241, 242, 243, 244, 245, 286, 330, 341, 344, 376, 378W, 446.
2. Related areas (16 hours):
   a. Sports Emphasis (16 hours): P.E. 286, 330, 341, 376; three of the following: 241, 242, 243, 244, 245; and 1 hour of P.E. elective.
   b. Dance Emphasis (16 hours): P.E. 180, 183, 185, 186, 286, 287, 288, 380, 383, 387, 388, 389, 486.

C. Physical Education Major Requirements with Dance Emphasis (Noncertification).

P.E. 180, 181, 182, 183, 185, 186, 187, 188, 279, 282, 283, 284, 285, 286, 287, 288, 380, 383, 386, 387, 388, 389, 486.

D. Physical Education Minor Requirements.

1. Sports Emphasis (Certification):
   P.E. 286, 330, 341, 376; swimming (1 hour); Health 121 or Youth Leadership 378 if health major; 4 of the following: 241, 242, 243, 244, 245 (total 20 hours).

   P.E. 378W must be successfully completed if a physical education-sports emphasis minor is to be assigned to student teaching in this minor.
2. Dance Emphasis (Certification):
   P.E. 185, 186, 286*, 287, 288, 330, 380, 383, 387, 388, 389, 486; one from the following: 241, 242, 243, 244, 245 (total 20 hours).

   *Physical education-sports emphasis majors substitute P.E. 283, 284, or 285. P.E. 378W must be successfully completed if a physical education-dance emphasis minor is to be assigned to student teaching in this minor.
3. Dance Emphasis (Noncertification):
   P.E. 180, 183, 185, 186, 286, 287, 288, 380, 383, 387, 388, 389, 486 (total 16 hours).
4. Elementary Curriculum Minor (Certification):
   P.E. 181, 182, 241, 242, 243, 330, *341; Health 121 (total 15 hours).

Note: In addition, the Teacher Education Department requires of all students P.E. 103, P.E. 184, plus two courses selected from the list of service courses, and P.E. 375 or 376.

*Prerequisite: Zool. 261, 262.

III. Prephysical Therapy—Men or Women:

Upon completion of the following courses, prephysical therapy students may graduate with the B.S. degree with a major in physical education (prephysical therapy emphasis) and a minor in zoology. Students then are eligible to apply for admission into one of a number of approved physical therapy schools located throughout the United States.

Four-Year Course in Prephysical Therapy

Freshman Year

	Hours
Undergrad. relig.	4
Engl. comp.	6
Health 130	2
Math. 101, 111 or 105, 106	6-8
Micro. 121	3
P.E.	1
Zool. 212	3
Psych. 111	3
Hist. 170	3
	31

Sophomore Year

	Hours
Undergrad. relig.	4
Hum.	6
Chem. 101, or 105, 106	5
Zool. 213	4
Zool. 261, 262	5
Sociol. 111 or 112	3
P.E.	1
Physics 105 or 201, 202	3-4
Speech & Dram. Arts 101 or 102	3-2
	34

Junior Year

	Hours
Undergrad. relig.	4
P.E. 341	3
P.E. 344	3
Psych. 185	3
Zool. 276	3
Engl. 316	2
Food & Nutr. 115 or Acctg. 201	2-3
Health 121	2
Psych. 320 or 321, 322	2
Health 451 or Micro. 311	2
Electives	4
	31

Senior Year

	Hours
Undergrad. relig.	4
P.E. 446	3
P.E. 462	3
P.E. 464	2
Rec. Ed. 570	2
P.E. 449	3
Health 561	2
Health 660	3
P.E. 547	3
P.E. 378	1
Zool. 563 or 564	3-2
Electives (recommended P.E. 645)	3-4
	32

IV. Elementary Education and Physical Education Composite Major.
See department chairman for course requirements.

Courses

Required Activity Courses

103. Skill Analysis and Application. (½:0:3) F.S. Hirst
Instruction and drill in basic skills.

104. Recreational Sports. (½:0:2-3) F.S.Su.

110. Fencing, Beginning. (½:0:2-3) F.S. deHoyos, Hafen

113. Wrestling, Beginning. (½:0:2) F.S.

114. Wrestling, Intermediate. (½:0:2) F.S. Prerequisite: P.E. 113 or equivalent.

115. Squash, Beginning. (½:0:2-3) F.S.

117. Paddleball, Beginning. (½:0:2-3) F.S.

119. Handball, Beginning. (½:0:2-3) F.S.

121. Track and Field, Beginning. (½:0:2) F. James, Robison

122. Track and Field, Intermediate. (½:0:2) S. James, Robison

123. Badminton, Beginning. (½:0:2) F.S.Su. Valentine

126. Archery, Beginning. (½:0:2-3) F.S.Su. Jacobson

128. Bowling, Beginning. (½:0:5) F.S.Su. Fee. Dixon, Valentine

131. Golf, Beginning. (½:0:2) F.S.Su. Tucker

132. Golf, Intermediate. (½:0:2) F.S.Su. Prerequisite: P.E. 131 or equivalent.

133. Tennis, Beginning. (½:0:2) F.S.Su. Dixon, Valentine

134. Tennis, Intermediate. (½:0:2) F.S.Su. Prerequisite: P.E. 133 or equivalent.

135. Rugby, Beginning. (½:0:2-3)

140. Basketball, Beginning. (½:0:2) F.S. Michaelis, Witbeck

141. Basketball, Intermediate. (½:0:2) F.S. Prerequisite: P.E. 140 or equivalent.

142. Speedball, Beginning. (½:0:2-3) F.S.

144. Volleyball, Beginning. (½:0:2) F.S.Su. Geddes, Michaelis

145. Volleyball, Intermediate (Men). (½:0:2-3)F.S. Geddes

147. Soccer, Beginning. (½:0:2-3) F.S. Jones, Wallace

148. Soccer, Intermediate. (½:0:2-3) F.S.

149. Field Sports. (½:0:2-3) F.S. Wallace

152. Softball. (½:0:2-3) F.

154. Football, Beginning. (½:0:5) F. Felt

155. Football, Intermediate. (½:0:5) F. Hudspeth

156. Baseball, Beginning. (½:0:5) F.S. Tuckett

157. Baseball, Intermediate. (½:0:5) S. Tuckett

160. Swimming, Beginning. (½:0:2-3) F.S.Su. Hirst, Uibel, Wallace

161. Swimming, Intermediate. (½:0:2-3) F.S.Su. Prerequisite: P.E. 160. Cryer, Wallace

163. Synchronized Swimming. (½:0:2-3) Schwendiman

164. Water Polo. (½:0:2-3) F.S. Cryer

166. Canoeing. (½:0:4) F.S.Su. Prerequisite: pass swimming test. Hirst, Wallace

168. Diving, Beginning. (½:0:2-3) F.S. Wallace

169. Swimming for the Handicapped. (½:0:2) Hirst

170. Tumbling. (½:0:2-3) F.S.Su.

171. Trampoline and Tumbling. (½:0:2) F.S. Wallace

173. Gymnastics, Beginning. (½:0:2) F.S. Morgenegg, Wallace

174. Gymnastics, Intermediate. (½:0:2) F.S. Prerequisite: P.E. 173 or equivalent. Morgenegg, Wallace

175A,B,C,D. Adaptive Physical Education. (½:0:2) F.S.Su. Prerequisite: consent of instructor or referral by Health Center. Francis

176. Activities for Fitness. (½:0:2-3) F.S.Su. Allsen, Hirst, Jacobson

177. Principles and Methods of Body Mechanics. (½:0:2-3) F.S.Su. Hirst

178. Progressive Weight Training, Beginning. (½:0:2-3) F.S.Su. Bunker

180. Social Dance. (½:0:2-3) F.S.Su. A. Heaton

181. Folk Dance. (½:0:2-3) F.S.Su. M. Jensen

182. Square Dance. (½:0:2-3) F.S.Su. M. Jensen

183. Specialty Dance. (½:0:2-3) F.S. Roylance
Entertainment and program dance forms.

184. National Dance Forms. (½:0:2-3) F.S.Su. A. Heaton, Olsen
American and foreign dance forms with their application and organization in folk, round, and square dance sequences.

185. Ballet Technique, Beginning. (½:0:2-3) F.S. Gibb

186. Ballet Technique, Intermediate. (½:0:2-3) F.S. Prerequisite: P.E. 185 or equivalent. Gibb

187. Modern Dance, Beginning. (½:0:2-3) F.S.Su. Gibb, J. Jensen, Roylance

188. Modern Dance, Intermediate. (½:0:2-3) F.S. Prerequisite: P.E. 187 or equivalent. Gibb, J. Jensen, Roylance

189. Beginning Latin-American Dance. (½:0:2-3) F.S.Su. deHoyos

192. Outing Activities. (½:0:3-5) F.S.Su. Uibel
Selected seasonal activities which may include walking, nature observation and study, horseback riding, snowshoeing, coasting, bicycling, roller skating, canoeing, sleighing, ice skating, tracking and trailing, and outdoor cookery.

195. Skiing, Beginning. (½:0:5) F.S. Tucker, Uibel
First-year skiing for participants of varying abilities. Sections formed on the basis of ability, with instruction suited to varying skill levels in fundamentals of skiing. The student furnishes his ski equipment and pays ski tow fees. Fee. (Permission to withdraw with refund restricted.)

196. Skiing, Intermediate. (½:0:5) F.S. Tucker, Uibel
Second-year skiing for participants of varying abilities. Classification for instruction based upon ability. The student furnishes all his ski equipment and pays ski tow fees. Fee. (Permission to withdraw with refund restricted.)

201. Introduction to Physical Education. (2:2:0) F.S.Su. Moe

207. Sports Officiating (Women). (2:1:3) F.S. Wallace
Rules, techniques, problems, and procedures in officiating softball, volleyball, and basketball. National ratings may be obtained by passing the O.S.A. examinations.

231. Sports Fundamentals for Majors. (1:0:3) F.S. Bunker, Roundy
Flag football, soccer.

232. Sports Fundamentals for Majors. (1:0:3) F.S. Moe, Morgenegg
Gymnastics, tumbling.

233. Sports Fundamentals for Majors. (1:0:3) F.S. Jones
Archery, badminton.

234. Sports Fundamentals for Majors. (1:0:3) F.S. Allsen, Tucker
Volleyball, golf.

235. Sports Fundamentals for Majors. (1:0:3) S. Cryer, Jensen
Swimming.

236. Sports Fundamentals for Majors. (1:0:3) F.S. Jones, Uibel
Tennis, weight training.

237. Sports Fundamentals for Majors. (1:0:3) F.S. Bunker
Calisthenics, games, and relays.

241. Skills and Teaching Techniques. (2:0:4) F. Hirst
Soccer, speedball, volleyball, conditioning and body mechanics.

242. Skills and Teaching Techniques. (2:0:4) S. Hawkes
Outdoor games, track and field, softball, marching, and gym apparatus.

243. Skills and Teaching Techniques. (2:2:4) S. Wallace
Tumbling, trampoline, and gymnastics.

244. Skills and Teaching Techniques. (2:0:4) F. Hirst, Valentine
Hockey, badminton, basketball, recreational games and rope jumping.

245. Skills and Teaching Techniques. (2:0:4) S. Jacobson, Valentine
Archery, golf, bowling, tennis.

250. Ski Instruction Methods. (1:0:4) F. Uibel
Instruction course in skiing for those who wish to qualify as student instructors in the ski program.

261. Swimming, Advanced. (1:0:3) F.S. Wallace

264. Life Saving. (1:0:3) S. Hirst, Wallace

265. Water Safety Instruction. (1:0:3) F.S.Su. Hirst, Wallace

268. Diving, Intermediate. (1:0:3) F.S.Su.

279. Folk Dance Teaching Techniques. (1:1:2) S. M. Jensen

280. Social Dance Teaching Techniques. (1:0:2-3) F.S.Su. Prerequisite: P.E. 180. A. Heaton

282. Advanced Square Dance and Calling Techniques. (1:3:0) F.S. Prerequisite: P.E. 182. M. Jensen

283. Social Dance, Advanced. (1:0:2-3) F.S. A. Heaton, Mavor

284. Folk Dance, Advanced. (1:0:2-3) F.S. M. Jensen

285. Latin-American Dance. (1:0:2-3) F.S. deHoyos

286. Teaching Dance in Secondary Schools (Social, Folk, and Square Dance). (1:1:2) Prerequisites: P.E. 180, 181, 182 or equivalent.
Methods of teaching social, square, and folk dance in secondary schools.

287. Modern Dance Technique, Intermediate. (2:0:6) F. Prerequisites: P.E. 187, 188. J. Jensen
Guided exploration in dance techniques leading toward composition.

288. Modern Dance Technique, Advanced. (2:0:6) S. Prerequisite: P.E. 287. J. Jensen

Technique and form for composition.

290. Ballet Technique, Advanced. (1:0:2-3) F.S. Prerequisites: P.E. 185, 186. Gibb, Jones, Michaelis

314. Intramural Sports. (2:2:0) F.S. Jones, Michaelis

330. Principles of Physical Education. (3:3:0) F.S. Holbrook
The principles of physical education and the relationship of physical education to total education.

341. General Kinesiology. (3:3:0) F.S.Su. Prerequisites: Zool. 261 and 262 or equivalent. Bangerter, Call, Jensen

344. Physiology of Activity. (3:3:0) F.S.Su. Prerequisite: Zool. 261, 262. Allsen, Geddes

A course in applied human anatomy and physiology.

370. Wrestling Fundamentals and Coaching (Men). (2:1:2) F.S. Prerequisite: for physical education majors only. Davis

Theory, fundamentals, and techniques of coaching wrestling, including some emphasis on management of meets and tournaments.

371. Football Fundamentals and Coaching. (2:1:2) F.S. Hudspeth

372. Basketball Fundamentals and Coaching. (2:1:2) F.S. Watts

Theory and fundamentals of offensive and defensive systems.

373. Track and Field Fundamentals and Coaching. (2:1:2) F.S. Robison

Theory, fundamentals, and techniques of track and field athletics.

374. Baseball Fundamentals and Coaching. (2:1:2) F.S. Tuckett

Theory, fundamentals, and techniques of baseball.

375. Physical Education for Teachers of Primary Grades. (2:0:4) F.S.Su. Prerequisites: P.E. 103 and 184 or equivalent. Hirst, Jacobson, Michaelis

Analysis of the fundamentals, the development of skills, and the application of methods in the teaching of games, rhythms, and recreation activities for grades one, two, and three.

376. Physical Education for Teachers of Intermediate Grades. (2:0:4) F.S.Su. Prerequisites: P.E. 103 and 184 or equivalent. Hirst, Jacobson, Michaelis

Analysis of fundamentals and development of skills for teaching in games, rhythms, and recreation activities for grades four, five, and six.

377. Secondary Teaching Methods and Procedures. (3:3:1) F.S. Prerequisite: Tchr. Ed. 301. Bangerter, Jones, Moe

See Tchr. Ed. 377 for description.

378. Physical Education Practicum. (1:0:2-3) F.S.

380. Modern Dance Production. (2:3:0) F. Prerequisites: P.E. 287, 288. Gibb

381A,B. Modern Dance Choreography. (1:3:0) Gibb

383. Rhythm Analysis for Dance. (1:3:0) F. J. Jensen

The analysis of rhythm, its relationship to movement, and its forms of sound and musical accompaniment.

386. International-Style Ballroom Dancing. (1:0:3) F. Mavor

387. Modern Dance Composition, Intermediate. (1:0:4) F. Prerequisite: P.E. 187, 188. J. Jensen

Fundamental composition forms with emphasis on locomotor movement and spatial elements.

388. Teaching Methods in Modern Dance. (1:0:4) S. Prerequisite: P.E. 187, 188. J. Jensen

Techniques, methods, audio-visual aids in teaching modern dance.

389. Modern Dance Improvisation. (1:0:4) Gibb

406. Sports Officiating. (2:2:1) F.S. Bunker

Rules, techniques, problems, and procedures in officiating football, basketball, and other team and individual sports. Suggested for those desiring to officiate in the intramural program.

411. Problems in Interschool Athletics. (2:2:0) F.S. E. Kimball

413. Organization and Administration of Physical Education. (2:2:0) F.S. Home Study also. Prerequisite: senior standing. E. Kimball

Administrative problems arising out of organizing and conducting health, physical education, and recreation programs in schools and communities.

446. Adaptive and Corrective Physical Education. (3:3:0) F.S.Su.
Call, Carver, Francis

Fundamentals of body mechanics and therapeutic exercise, coupled with kinesiological principles in preparing the student in the detection and correction of basic neuromusculoskeletal anomalies.

449. Problems of Athletic Injuries. (3:3:1) F.S.Su. Prerequisite: P.E. 446.
Call, Francis

Designed for prospective coaches, trainers, health and physical educators; to aid in the recognition, evaluation and care of athletic injuries. Techniques in taping, prevention, and rehabilitation of injuries.

461. Tests and Measurements for Women. (3:3:0) F.S.Su. Carver, Hirst

An introduction to statistics and measurements in physical education. Use and administration of tests in physical education, and an analysis and application of results.

462. Elementary Statistics for Health and Physical Education. (3:3:0) F.S.Su. Prerequisite: Math 105 or equivalent. Jensen, Roundy

Counts toward 6-hour science requirement.

464. Introduction to Tests in Health and Physical Education. (2:2:0) F.S.Su. Prerequisite: P.E. 462. Hart, Roundy

Introduction to the history and development of measurement in health and physical education. Description of important tests with emphasis on techniques of test administration and application of results.

470. Teaching Progression in Individual Sports (Women). (2:4:0) S.
Jacobson, Jones

Materials, methods, and teaching progression in individual sports such as archery, badminton, bowling, golf, and tennis.

471A,B,C. Workshop in Individual Sports. (1:combination of 40 hrs.) Su. (Offered on demand) Jacobson, Valentine

Teaching techniques and skill progression in individual sports such as archery, badminton, bowling, tennis, or golf.

472. Teaching Progression in Team Sports (Women). (2:2:2) F.S. Hirst

Materials, methods, and teaching progression in team sports such as basketball, field hockey, soccer, softball, speedball, and volleyball.

473A,B,C. Workshop in Team Sports. (1:combination of 40 hrs.) Su. (Offered on demand) Michaelis

Teaching techniques and skill progression in team sports such as basketball, field hockey, softball, or volleyball.

474. Teaching Techniques in Gymnastics. (2:1:2) F. Bangerter, Moe

475. Workshop in Gymnastics. (1:combination of 40 hrs.) Su. (Offered on demand) Wallace

Teaching techniques and skill progression in gymnastics.

479. Secondary Student Teaching. (8:1:15) F.S.
Bangerter, Jacobson, Jones, Moe, Valentine

486. History and Philosophy of Dance. (3:3:0)

History and philosophies of dance and dancers and the significance of these ideas in view of their effect on modern educational and cultural uses of dance.

489A,B,C. Workshop in Modern Dance. (1-2:Arr.:Arr. ea.) (Offered on demand once each year)

547. Advanced Adaptive and Corrective Physical Education. (3:3:2) S. Prerequisite: P.E. 446. Call, Francis

Techniques of postural evaluation, muscle testing, therapeutic exercise and relaxation; extent and limitations of the physical educator's responsibility for recognition of divergent conditions and advisement and referral procedures.

575. Materials and Methods for Secondary Teachers. (2:1:2) F. Hirst

601. Problems in Physical Education. (3:3:0) F. Bangerter
Identification and interpretation of the nine generalized problems in physical education.

610. Philosophy of Physical Education. (2:2:0) F. Holbrook
Interpretations, beliefs, and concepts underlying the profession of physical education.

631. Problems in Athletic Conditioning. (2:2:0) F. Prerequisite: Zool. 264. Jensen
Application of scientific principles to problems in athletic conditioning.

633. Physical Education for the Mentally Retarded. (2:2:0) F. Prerequisite: bachelor's degree in physical education. Call
Theory, concepts, and programs in physical education for trainable and educable mentally retarded.

635. Measurement and Evaluation in Physical Education and Health Education. (3:3:0) F. Prerequisite: P.E. 464 or equivalent. Roundy

640. Curriculum Construction in Physical Education. (2:2:0) S. Hart
Curriculum problems for elementary, secondary, and college physical education programs.

642. Mechanical Analysis of Activities. (2:2:0) S. Bangerter
Analysis of the mechanics of movement in various activities to develop the highest degree of skill.

645. Functional Anatomy and Kinesiology. (2:2:0) S. Prerequisites: Zool. 105, 261, 262, 562; P.E. 341, 344, 446, 447, 449, or equivalent. Call
Functional applied anatomy and kinesiology for physical education students.

647. Physiology of Strength and Endurance. (2:2:0) F. Prerequisites: Zool. 105, 261, 262, 562; P.E. 341, 344, 446, 447, 449. Geddes
Physiology of strength of the musculoskeletal system and endurance of the cardiovascular system.

662. Administration and Public Relations. (3:3:0) F. Hartvigsen
Administrative and public relations problems at all school levels: local, state, and national.

663. Planning Facilities. (2:2:0) S. E. Kimball
Basic planning for facilities for school and community physical education and recreation programs.

670. History of Physical Education. (3:3:0) S. Holbrook
History of physical education from ancient civilization to present day.

673. Physical Education in the Elementary School. (3:3:0) Su. Holbrook
For the teacher, the principal, and the supervisor. Emphasis on objectives, interrelationships with the curriculum, and the content material used in accomplishing educational results.

674A,B,C. Workshop in Physical Education in the Elementary Schools. (1:combination of 40 hrs.) (Offered on demand) Jacobson
Materials, methods, and teaching progression in physical education for the elementary school.

692. Research Methods in Physical Education. (3:3:0) F.Su. Geddes

694. Individual Study. (2:1:1) F.S.Su. E. Kimball
Readings from recently published professional literature.

696. Seminar in Problems. (1:1:0) S.

698. Field Project, Master's Degree. (1-6:0:Arr.) F.S.Su. Staff

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su. Staff

Physical Science

Professor: L. Compton (coordinator, A-253 JKB).

Associate Professors: Gee, Wickes.

Assistant Professor: Peterson.

Instructor: Hurd.

An interdisciplinary area only, serving chemistry, geology, mathematics, and physics.

Courses

377. Secondary Teaching Curriculum and Methods. (3:3:1) F.S. Prerequisite: Tchr. Ed. 301.

Designed for mathematics and physical science majors in teacher education.

For course description and fees, see Tchr. Ed. 377.

479. Secondary Student Teaching. (5-8:1:20-40) F.S. Prerequisite: Phys. Sci. 377 or equivalent.

For course description and fees, see Tchr. Ed. 479.

☐**Teacher Education 493, 494. Independent Readings.** (1-2:1-2:0)

☐**Graduate Education 630. Teaching Mathematics and Science in Secondary Schools.** (2:2:0)

Physics and Astronomy

Professors:	Barnett, Decker, Dixon, Dudley, Eastmond, Fletcher, A. L. Gardner, J. H. Gardner (chairman, 296 ESC), Hales, A. Hill, M. Hill, McNamara.
Associate Professors:	Ballif, Dibble, Hansen, Harrison, Larson, Nelson, Vanfleet.
Assistant Professors:	Geertsen, Jensen, Jones, Miller, Nielsen, Strong.
Instructor:	Merrill.

The curriculum of the Department of Physics is designed to provide (1) training for students who intend to pursue graduate work in physics or astronomy; (2) preparation for students who intend to enter industrial or governmental service as physicists or astronomers; (3) a fundamental background for other physical sciences and engineering; (4) the broadening program required by the biological science, premedical, predental, and nursing programs; (5) training in the subject matter of physics for prospective teachers of the physical sciences; and (6) a perspective of science and an introduction to the role of physics in the human quest for understanding.

Students who expect to major in physics, other physical sciences, or engineering should begin their study of physics by electing Physics 121 and 122 or, if the study of physics is to begin in the second year, Physics 211 and 212. Those who expect to study medicine, dentistry, or to major in the biological sciences may elect Physics 201 and 202 although the series beginning with 211 is preferred for those having some background in calculus. Students who desire an elementary course in applied physics should take Physics 105 and 106.

Nonscience students may elect with profit Physics 100 or 300 which emphasizes the role of physics as one of the humanities as well as a science; or Physics 127, 137, 167, or 177 which are organized with the object of giving the student an understanding of certain broad features of his physical environment.

Students expecting to use physics as a teaching major or minor or as part of a composite teaching major should refer to the part of this catalog concerned with the subject matter preparation of secondary school teachers. They are also invited to consider the MA-3 program beginning in the junior year which is described below under the corresponding heading.

Majors in Physics

The Physics Department offers programs leading to the Bachelor of Science and Bachelor of Arts degrees. The former is intended for those students who intend to pursue a career in research or in teaching on the college level. The latter is a liberal arts degree and may profitably be elected by those who intend to pursue careers in secondary or junior college teaching, business administration, etc.

Requirements for the B.S. Degree

For a student to graduate with the Bachelor of Science degree, he must successfully complete the following courses: Physics 121, 122, 221, 222 (or 211, 212, 213, 214, 315, 316), 314, 321, 322, 341, 342, 386, 387, and six or more credit hours selected from the 300, 400, or 500 series in the department; and Math. 141, 142, 243, 244, 434, 436, or their equivalent. Successful completion of these courses implies, for physics majors, attaining a grade of "C" or better.

Requirements for the B.A. Degree

For the B.A. degree, the student must successfully complete the following courses: Physics 121, 122, 221, 222 (or 211, 212, 213, 214, 315, 316), 300, 314, 321, 322 (341 and 386 may be substituted for 322), and Math. 112, 113, 214, 434 (or their equivalent), and a second approved 14-hour minor outside the department.

Physics-Astronomy Option

Physics majors whose primary interest is astronomy or astrophysics must take the same basic courses listed under the requirements for a physics major. It is recommended that these students take Physics 127 in place of Chem. 112 during the freshman year. They should also include Physics 521, 522 and Physics 527, 528 as part of their program in the senior year.

Suggested Courses for Physics Majors

Language. The student is strongly urged to achieve competence in a foreign language (German, Russian, or French) during his undergraduate career, particularly if he intends to go to graduate school. A summer program in French, German, or Russian would be highly advantageous. French 95, 96, or German 95, 96 might be considered.

Religion. It is suggested that the student take advantage of the opportunity to replace four hours of religion credit during the senior year by the four-year accumulation of four hours of credit for devotional assembly.

Mathematics. Students in physics should take mathematics the first semester of the freshman year. The course with which one begins his training in mathematics is determined by the results of the mathematics placement test taken prior to registration. Normally the student will begin with Math. 141, but inadequate mathematics preparation in high school may make it necessary for him to begin with Math. 111. In the latter case he should follow the mathematics and physics sequence listed in parentheses in the following proposed program. He could get back into step through a summer course.

Successful completion of Math. 243 and Physics 221 or their equivalents is prerequisite to all courses above Physics 310.

Proposed Program. The following program is recommended in order for the student to satisfy the general education requirements and at the same time obtain sufficient understanding in undergraduate physics for a career in physics or the pursuit of graduate work. A core of four courses plus religion and physical education is scheduled for each semester. It should be noted that this program includes more courses than are required for graduation. For minimum requirements, see above; considerably more flexibility is possible than is evident in the schedule below. However, the program outlined is designed for students who plan to take the graduate record examination during the senior year. This examination is generally required for admission to graduate school.

Freshman Year

	F	S
Physics 121, 122	3	3
Math. 141, 142	4	4
(or 111, 141)	(5)	(4)
(or 111, 112)	(5)	(4)
Chem. 111, 112*	5	5
(or 105, 106)	(4)	(4)
(or Health, Hist. 170)	(2)	(3)
Engl.	3	3
Undergrad. relig.	2	2
Dev. assy.	½	½
P.E.	½	½
Total Hours	15-19	16-18

Sophomore Year

	F	S
Physics 221, 222	4	4
Math. 243, 244	3	3
(or 142, 243)	(4)	(3)
(or 113, 214)	(4)	(3)
Health, Hist. 170	2	3
(or Chem. 105, 106)	(4)	(4)
(or Chem. 111, 112)	(5)	(5)
Elective (Bio. sci.)	3	
Physics 314		3
Undergrad. relig.	2	2
Dev. assy.	½	½
P.E.	½	½
Total Hours	15-19	16-18

Junior Year

	F	S
Physics 321, 322	4	4
Math. 434, 436	3	3
(or 244, 434)	(4)	(3)
(or 321, 434)	(3)	(3)
Physics 341, 342	3	3
Electives (Bio. sci., soc. sci.)	3	5
Physics 386	1	
Undergrad. relig.	2	2
Dev. assy.	½	½
Total Hours	16½-17½	16½-17½

Senior Year

	F	S
Physics 471, 431	3	3
Physics 551, 552	3	3
Physics 517*, 518*	3	3
(or Math. 436, elective)		
Electives (hum.)	3	3
Physics 441 or elective, Physics 387	3-5	2
Dev. assy.	½	½
Total Hours	15½-17½	14½

*Physics-astronomy majors may substitute Physics 127, 527, 528 for these courses and add Physics 521, 522 to the senior year program.

Note: This program meets all the requirements for the B.S. degree in physics with a mathematics minor.

Physics Minor

Any course in the Physics Department curriculum which is passed with a grade of "C" or better may be counted toward filling the 14-hour requirement for a minor in physics. A recommended program for the physics minor is Physics 121, 122, 221, 222 (or Physics 211, 212, 213, 214, 315 and 316).

MA-3 Program for Secondary and Junior College Teachers

A student who intends to become a teacher in secondary education or in a junior college may find it to his advantage to enter the MA-3 program. This is an accelerated program beginning in the junior year designed to enable a student to (1) obtain a B.A. degree in physics with a teaching minor in mathematics at the end of his senior year, (2) obtain an M.A. degree in physics with one additional year's study, and, if he wishes, (3) obtain a Utah Secondary School Teaching Certificate. Prerequisites for the program are Math. 111, 112, 113 or their equivalents. The program is designed so that the student may, if he desires, spend one or two years in teaching between his senior and first graduate years. A suggested curriculum for each of these years appears below.

A student interested only in junior college teaching may prefer to enter a regular B.S. or B.A. program and take Grad. Ed. 640, 642, 644 during his graduate year.

Junior Year

	F	S	Su
Math. 214	3		
Tchr. Ed. 301	2		
Physics 211, 212, 213, 214	5	5	
Physics 314		3	
Phys. Sci. 377		3	
Undergrad. relig.	2	2	
Math. 301, 302	3	3	
Chem. 105, 106			8
Total Hours	15	16	8

Senior Year

	F	S	Su
Physics 315, 316	4		
Math. 434, 371	3		3
Physics 300	3		
Physics 321, 322	4	4	
Physics 396	1		
Phys. Sci. 479 (½ day all sem.)		8	
Tchr. Ed. 310			2
Tchr. Ed. 403		4	
Health 362	2		
Tchr. Ed. 415			2
Undergrad. relig.		2	2
Total Hours	17	18	9

Graduate Year

	F	S	Su
Physics 511	3		
Physics 551, 552	3	3	
Two sem. physics series	3	3	
Minor	3	6	
Physics 699 (thesis)			6
Total Hours	12	12	6

Suggested minors:
Math. 387, 501, 502; Grad. Ed. 640, 642, 644.

Courses

100. Essentials of Physics. (3:3:0) F.S.Su. Home Study also. (G-PS m)
Ballif, Miller

Principles of classical and modern physics as they relate to current concepts of our physical environment.

101. Current Topics in Physics. (3:3:0) S. (G-PS m) Prerequisite: Physics 100.
Ballif, J. Gardner

Follow-up course to Physics 100. Topics will be selected from fields of current interest such as radio astronomy, quasars, age of the earth, lasers, elementary particles, etc.

105, 106. Technical Physics. (3:2:3 ea.) F.S. (G-PS m) Prerequisite: completion of or concurrent registration in Math. 111 or 121.

Introductory course in applied physics with special emphasis on industrial and technical applications. Topics include mechanics, heat, light, and sound.

121, 122. Principles of Physics. (3:3:0 ea.) F.S. (G-PS m) Prerequisite: completion of or concurrent registration in Math. 141 or Math. 112.

Mechanics, elasticity, fluid mechanics, heat, thermodynamics, kinetic theory, oscillation and wave motion, electricity and magnetism.

127. Descriptive Astronomy. (3:3:0) F.S. Home Study also. (G-PS m)
Hansen, McNamara

A nonmathematical presentation of our knowledge of the content and history of the cosmos. Frequent use is made of the observatory and planetarium.

128. Elementary Astronomy Laboratory. (1:0:2) F.S. (G-PS m) Prerequisite: Physics 127 (may be taken concurrently). Staff

A laboratory course in elementary observational astronomy designed to give the student first-hand experience in observing and analyzing basic astronomical phenomena.

137. Weather and Climate. (3:3:0) F.S.Su. Home Study also. (G-PS m)

A study of the earth's atmosphere and the physical processes responsible for weather phenomena and climate.

167. Descriptive Acoustics of Music and Speech. (3:3:0) S. (G-PS m) Strong

An introductory acoustics course with emphasis on the physical principles underlying the production and perception of music and speech.

177. Physics of Light and Photography. (3:2:3) F.S. Home Study also. (G-PS m)
Hales

An introductory course with emphasis on those aspects of light related to photography.

201, 202. General College Physics. (5:5:3 ea.) F.S. (G-PS m) Prerequisite: Math. 109 or equivalent. Jensen, Miller

A general course with laboratory for students in premedical, predental, and biological science programs. Topics include mechanics, heat, sound, light, electricity and magnetism, atomic and nuclear physics.

211, 213. General Physics: Classical. (4:4:0 ea.) F.S.Su. (G-PS m) Prerequisites: Math. 112; completion of or concurrent registration in Math. 213; and for physics, chemistry, and engineering majors, completion of or concurrent registration in Physics 212 or 214. Barnett, Eastmond, A. Gardner

Mechanics, heat, sound, light, electricity, and magnetism for physical science and engineering majors. This course (for Physics 224) is a prerequisite for all specialized courses in physics.

212, 214. General Physics Laboratory. (1:0:3 ea.) F.S. (G-PS m) Prerequisite: completion of or concurrent registration in Physics 211 or 213.

Experimental work to parallel Physics 211 or 213.

221, 222. Principles of Physics. (4:3:3 ea.) F.S. (m) Prerequisites: Math. 142, (or 113), Physics 122.

The electromagnetic field; electromagnetic waves, optics, quantum radiation, spectra, atomic and nuclear structure, radioactivity, nuclear energy, fundamental particles. Laboratory experiments in contemporary physics.

300. Philosophical Foundations of Modern Physics. (3:3:0) F.S. (G-PS m) Prerequisite: college-level course in chemistry or physics; or consent of instructor. Nielson

Selected topics in modern physics (e.g., relativity and quantum mechanics) will be briefly developed and examined for their philosophical implications. Some current challenging problems will be explored.

314. Introduction to Potential Theory. (3:3:0) Prerequisites: Math. 113 or 244.

Application of vector analysis including the integral theorems of Green, Stokes, et al., to the classical theory of fields.

315. General Physics: Atomic and Nuclear. (3:3:0) F.S.Su. (m) M. Hill

Fundamental particles, atomic and molecular structure, Bohr theory, spectra, X rays, quantum effects, special relativity, radioactivity, nuclear forces and nuclear reactions.

316. Atomic and Nuclear Physics Laboratory. (1:0:3) F.S.Su. (m) Prerequisite: completion of or concurrent registration in Physics 315. M. Hill, Miller

Required of all physics majors. Experimental work in particle and radiation physics.

321, 322. Mechanics. (4:4:0 ea.) F.S. (m) Prerequisite: Physics 314. Decker

Methods of classical mechanics applied to equilibrium, particle motion, central forces, small oscillations, conservation principles, and rigid body dynamics, with an introduction to Lagrange's equations.

341, 342. Electricity and Magnetism. (3:3:0 ea.) F.S. (m) Prerequisite: Physics 314. Jones

Classical theory of electricity and magnetism developed from its experimental foundations. Electrostatics, magnetostatics, currents and their associated fields, circuit theory, and Maxwell's equations.

386. Advanced Experimental Techniques. (1:1:2) F.S. Eastmond

Basic techniques in electrical, optical, thermal, electronics, etc., measurements and instrumentation for contemporary experimental physics.

387. Advanced Physics Laboratory. (2:1:3) F.S. Eastmond

Application of contemporary methods and instruments to the experimental observation and measurement of classical and modern physical phenomena.

391, 392. Seminar in Current Physics. (1:1:0 ea.) F.S. Prerequisite: consent of instructor.

For junior physics majors enrolled in the Honors Program.

431. Thermal Physics. (3:3:0) S. (m) Larson

Fundamental principles of thermodynamics with introduction to the concepts of kinetic theory and statistical mechanics for physicists, chemists, and engineers.

441. Electronics for Physicists. (5:3:6) S. Prerequisite: Physics 342. Jones

Fundamental concepts of electronics and basic circuitry with emphasis on the tools needed for specialized research in a variety of fields of physics.

471. Optics and Electromagnetic Theory. (3:3:0) F. (m) Eastmond

Intermediate treatment of the propagation, reflection, refraction, interference, and diffraction of electromagnetic waves, with introduction to the use of Maxwell's equations and quantum optical phenomena.

497A,B,C. Introduction to Research. (1-3:0:2-6 ea.) Arr. (m)

511. Introduction to Theoretical Physics. (3:3:0) Su. Prerequisites: Math. 334, 317, or consent of instructor.

Introduction to basic principles of physics with emphasis on their mathematical formulation. Topics treated vary from year to year.

513A,B,C,D. Special Topics in Contemporary Physics. (1-3:1-3:0 ea.) Arr. Prerequisite: consent of instructor.

Course content varies from year to year. Subject matter will generally be related to recent developments in physics.

517, 518. Mathematical Physics. (3:3:0) Prerequisites: Math. 436 or 323.

Topics in modern theoretical physics including applications of matrix and tensor analysis and linear differential and integral operators.

521, 522. Celestial Mechanics. (3:3:0 ea.) F.S. Prerequisite: consent of instructor. Hansen

Fundamental principles of celestial mechanics and orbital computations.

527, 528. Introduction to Astrophysics. (3:3:0 ea.) F.S. Prerequisite: consent of instructor. McNamara

Fundamental principles and observational techniques of astrophysics.

536, 537. Space and Planetary Physics. (3:3:0 ea.) F.S. (Offered 1968-69 and alternate years) Prerequisite: consent of instructor. Ballif, Jones

Topics will include solar physics, interplanetary fields, atmospheres of earth and planets.

551. Elements of Quantum Theory. (3:3:0) F. Prerequisites: Physics 315, Math. 317 or equivalents. J. Gardner

Basic course in modern theory of radiation and particle physics for physicists, chemists, and engineers. Topics include elementary treatments of relativity theory, quantum mechanics with spectroscopic applications, quantum statistics, solids.

552. The Atomic Nucleus. (3:3:0) S. Prerequisite: Physics 551. J. Gardner

Basic course in nuclear physics for physicists, chemists, and engineers. Topics include description of nuclear properties, scattering theory, nuclear reactions, elementary theory of the nucleus.

561. Fundamentals of Acoustics. (4:4:0) F. Strong

General consideration of the generation, transmission, and reception of sound. Discussion of vibrating systems, properties of elastic media, mechanical and electrical energy, and radiation.

562. Acoustical Measurements. (2:0:4) F. Prerequisite: completion of or concurrent registration in Physics 561. Staff

Selected experiments in acoustics.

565. Characteristics of Speech. (3:3:0) S. (Offered 1969 and alternate years) Prerequisites: Physics 561 or consent of instructor. Strong

Acoustical theory of speech production. Auditory capabilities of man and speech perception. Techniques for analysis and synthesis of speech. Synthesis-by-rule and machine recognition.

566. Musical Acoustics. (3:3:0) S. (Offered 1970 and alternate years) Prerequisite: Physics 561 or consent of instructor. Strong

Technical study of acoustical behavior and timbre of musical instruments. Ensemble and choral effects. Mathematical models of instruments. Analysis and synthesis of instrumental tones. Electronic musical instruments.

581. Introduction to X-ray Diffraction Analysis. (3:2:3) F. (Offered on sufficient demand) Prerequisite: consent of instructor. Barnett

Introduction to the theory and experimental techniques of x-ray diffraction including an introduction to crystal geometry.

582. X-ray Crystallography. (3:2:3) S. (Offered on sufficient demand) Prerequisite: Physics 581 or equivalent. Barnett

Introduction to x-ray crystallography with emphasis on the space groups and structure-dominated crystal physics.

611, 612. Astrophysics. (3:3:0 ea.) F.S. (Offered 1968-69 and alternate years) Prerequisite: consent of instructor. McNamara

The theory of stellar atmospheres and interstellar matter.

621. Dynamics. (3:3:0) F. Prerequisite: Physics 322.

Advanced treatment of classical mechanics, including Lagrange's and Hamilton's equations, rigid body motion, and canonical transformations.

623. Dynamics of Continuous Media. (3:3:0) S. (Offered 1968-69 and alternate years) Prerequisite: Physics 621.

The mechanics of systems with an infinite number of degrees of freedom. Topics include elasticity and hydrodynamics.

625. Theory of Relativity. (3:3:0) S. (Offered 1969-70 and alternate years) Prerequisite: Physics 621. Harrison

Fundamentals of special relativity, applications to dynamics and electromagnetism, and introduction to general relativity.

627, 628. Advanced Topics in Astrophysics. (3:3:0 ea.) F.S. (Offered 1969-70 and alternate years) Prerequisite: consent of instructor. McNamara

Internal structure of stars; galactic structure.

631, 632. Statistical Mechanics. (3:3:0 ea.) F.S. Larson

Advanced thermodynamics; classical statistical mechanics, quantum statistics, transport theory.

641, 642. Mathematical Theory of Electricity and Magnetism. (3:3:0 ea.) F.S. Prerequisite: Physics 342. Vanfleet

Advanced electrostatics and magnetostatics; Maxwell's equations and electromagnetic waves; relativistic electrodynamics, radiation theory, interaction of matter with electromagnetic fields.

645, 646. Plasma Physics. (3:3:0 ea.) F.S. (Offered on sufficient demand) Prerequisites: Physics 431, 621, 642. A. Gardner

A study of the plasma state of matter, including a description both in terms of individual particles and in terms of a fluid, with applications.

651, 652. Quantum Mechanics. (3:3:0 ea.) F.S. Prerequisites: Physics 518, 551, 621. J. Gardner, Nelson

Nonrelativistic quantum mechanics logically developed with applications.

655, 656. Nuclear Physics. (3:3:0 ea.) (Offered on sufficient demand) Prerequisite: Physics 552. Dixon, Jensen

Fundamental properties of nuclei, nuclear forces, nuclear models, electromagnetic properties of nuclei, particle radioactivity, nuclear reactions, and interaction of radiation with matter.

671. Atomic Spectroscopy. (3:2:3) F. (Offered 1968-69 and alternate years) Prerequisite: Physics 551 or consent of instructor. Eastmond

Observation and analysis of atomic spectra; series, multiplet structure, Zeeman effect; selection rules, transition probabilities, energy levels; atomic structure.

672. Molecular Spectroscopy. (3:2:3) S. (Offered 1968-69 and alternate years) Prerequisite: Physics 671. Eastmond

Analysis of band spectra; molecular rotational, vibrational, and electronic energy levels; determination of molecular structure.

681, 682. Modern Theory of Solid State. (3:3:0 ea.) F.S. Prerequisites: Physics 431, 551. Decker, Vanfleet

An introductory course for students in physics, chemistry and engineering. Physical properties of atomic and molecular systems which are arranged in a regular periodic structure.

691, 692. Seminar. (1:1:0 ea.) F.S.

697. Research. (Arr.) Arr.

699. Research and Thesis for Master's Degree. (6-9:Arr.:Arr.) Arr.

711A,B,C. Advanced Topics in Physics. (1-3:1-3:0 ea.) F.S. Prerequisite: consent of instructor.

Course content varies from year to year. Special topics in theoretical and experimental physics are treated.

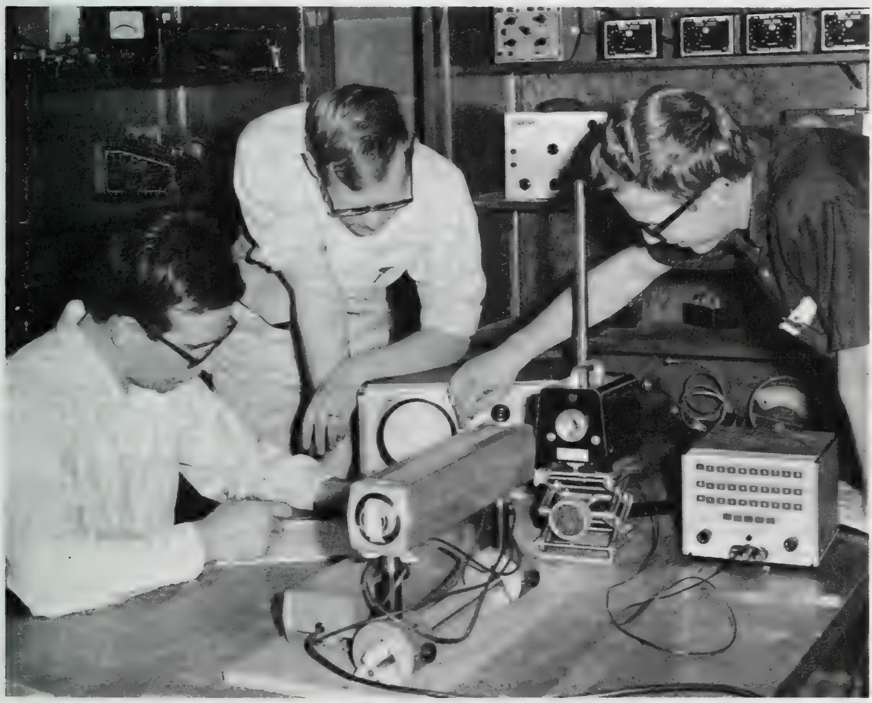
751, 752. Advanced Quantum Theory. (3:3:0 ea.) F.S. (Offered 1968-69 and alternate years) Prerequisite: Physics 652 or consent of instructor.

Topics in relativistic quantum mechanics including quantum field theory.

791, 792. Seminar. (1:1:0 ea.) F.S.

797. Research. (Arr.) Arr.

799. Research and Dissertation for Ph.D. Degree. (Arr.) Arr.



Students perform laser experiment

Political Science

Professors: Bernhard, Grow, Hickman, Mabey, Melville, Reeder.

Associate Professors: Farnsworth, Harlow, Hillam, Midgley, Morrell (chairman, 270 M), Slover.

Assistant Professors: Buckwalter, Snow, Williams.

Political science is concerned above all with the interplay of power and interests in local, national and international communities and the resulting formulation and execution of public policy. On the basis of empirical theory and political philosophy, political science analyzes, in particular, governments, parties and pressure groups, law, and public administration. It investigates foreign political systems and international relations in addition to emphasizing the American political systems at all levels. The faculty members of the department have had varied and excellent academic training as well as broad practical experience both in this country and overseas.

Students completing the Bachelor of Arts degree in political science are currently entering high school and seminary teaching (with secondary certification), career business positions, and government employment including the foreign service and military officer corps. The majority, however, are going on immediately for graduate study of law, political science for junior college and university teaching and research, public administration, and business administration.

Requirements for a Major

Bachelor-degree candidates majoring in political science are required to complete satisfactorily a minimum of thirty credit hours of courses as indicated below. No "D" credit may be counted toward this total.

The major consists of a sequence of two or three introductory courses, a research and writing course or seminar, and a broad choice among intermediate and advanced courses in at least **four** of the **six fields** offered by the department: political philosophy and theory, American political systems, public administration, foreign political systems, public law, and international relations.

The distribution and sequence of courses are as follows (to be selected in consultation with an adviser in the department):

A. **Required introductory courses,** to be taken before any upper-division courses (6 to 9 credits)—210 and 250, or 110, 150* and 170* (or a combination of 110 and 250, or 210, 150* and 170*).

B. **Required intermediate course options,** to be taken usually before any 500-level courses (9 to 12 credits)—at least one course from 310 or 311; at least one course from among 330, 360, 361, or Hist. 385; at least one course from among 350, 355, 359, 370 or 375 (*note, this option may be omitted if both 150 and 170 are taken); plus 402 (or, for specified majors, 501 or 502).

C. **Research and writing requirement** (3 credits)—either 300, to be taken in the sophomore or junior year (prerequisite of 9 credits) or 499, to be taken in the senior year (prerequisite of 18 credits). Neither of the courses is offered during the summer terms. The 499 course is recommended especially for those intending to go on to graduate study.

D. **Elective intermediate and advanced courses** (9 credits)—it is recommended that the three additional courses be selected from one, or at most two, of the fields chosen under "B" for the intermediate course options. These courses may be any of the others listed above or any of the 500-level courses beginning with 501 (except 508) and ending with 580. Undergraduates are expected to take courses at the advanced level in at least one field in order to have some depth of concentration.

In addition to the 30 credit hours, undergraduate majors intending to take an advanced degree in political science should take Pol. Sci. 508, plus Sociol. 320 or Psych. 370 or a statistics course. Those majors staying on here for the M.A. may take 508 as part of their graduate program; others should take it before going elsewhere.

For those who may plan graduate study in political science, as well as those emphasizing either foreign or international affairs, **foreign language training** is highly recommended. Such training should extend to at least the intermediate level. Because the University has a language requirement or an alternative, any other majors ought to consider which would be more beneficial for them.

In general, the **major courses** should be taken one **per semester** until the junior year, and two thereafter. Students who contemplate applying to graduate schools and taking the Graduate Record Examination or Law School Admissions Test ought to complete their 30 credit hours by the end of the Fall Semester. Students beginning the major after the freshman year should adjust the sequence proportionately.

Because a full-time **student load** is 15 to 17 credit hours per semester, with two hours of study required for each hour in class, it is recommended that majors who are employed 10 or more hours per week reduce their course registration proportionately.

In satisfying the **American history and government requirement**, majors are encouraged to take both History 120 and 121. History 170 is not recommended.

Majors are also encouraged to take an introductory course in each of the other **social science** disciplines: Econ. 111, Sociol. 111 or Anthrop. 105, Psych. 111, Geog. 120 or 441.

Minor Requirements for Political Science Majors

In consultation with their adviser, students majoring in political science may choose among three alternatives in fulfilling the bachelor-degree minor requirement:

A. Fourteen credit hours in any department in the College of Social Sciences or College of Humanities. Students should consult with their adviser and with the chairman of their chosen minor department on the appropriate courses. If advisable, a minor in a department of another college may be selected.

B. A behavioral research composite minor emphasizing behavioral and quantitative analysis, consisting of 14 credit hours (which may not be doubly counted with general education requirements) selected in consultation with the major adviser: Sociol.-Psych. 350, 3 hours; stat., 6 hours; comput. sci., 3 hours; plus one elective from any of the following—Geog. 441; Phil. 381, 382; and Sociol. 501.

C. A concurrent major or a minor in one of the following interdisciplinary programs: Asian Studies, Russian Studies, International Relations, or Latin-American Studies.

Requirements for a Minor

Bachelor-degree candidates taking a minor in political science are required to complete satisfactorily a minimum of fourteen credit hours of courses offered by the department, including required introductory courses 210 or 110, and 250 or 150 or 170, plus three intermediate or advanced courses.

See the Department of Teacher Education for details on the **secondary teaching certification** of a political science major or minor.

Graduate Study

The department also offers programs leading to the Master of Arts degree in political science, consisting of study in advanced 500-level courses and in 600-level seminars. The latter are offered to graduate students only.

See the Graduate School Catalog for details.

Courses

105. Current Affairs. (1:1:0) F.S.Su. (G-SS m)

Survey of current events with special attention to historical background and present implications in economics, sociology, politics, and international relations.

110. American Government. (3:3:0) F.S.Su. Home Study also. (G-SS m)

Origin and growth of federal Constitution; rights of citizens; branches of national government; types of state and municipal governments; federal relations; major policy issues facing American governments.

150. Foreign Governments and Politics. (3:3:0) F.S. Home Study also. (G-SS m)

General survey of foreign governments and comparative politics.

170. Introduction to International Relations. (3:3:0) F.S. Home Study also. (G-SS m)

Survey of basic forces, practices, and institutions with special attention to foreign policies of major powers and problem areas in international politics.

210. The American Political System. (3:3:0) F.S.Su. (G-SS m)

United States national, state and local governments and politics within their environments, studied by means of systems analysis.

250. Foreign and International Political Systems. (3:3:0) F.S.Su. (G-SS m)

Introduction to the governments and politics of selected European, Asian, Middle East and African, and Latin-American countries within their environments, studied by means of systems analysis; their interrelations, types of conflict and cooperation, and international organizations.

300. Research and Writing in Political Science. (3:2:1) F.S. Prerequisite: 9 credit hours in Pol. Sci.

Sources, materials, and methods of research and writing in political science. Should be taken sophomore or junior year. This course or 499 is required of all majors.

310. The United States Political System. (3:3:0) F.S.Su. (m) Prerequisite: Pol. Sci. 210. Buckwalter, Grow, Melville, Reeder, Slover

Systematic inquiry into the national government and politics of the U.S. in the context of American society as a whole; emphasizes roles, interest patterns, bases of power, and policy formulation, implementation and appeal.

311. State and Local Government and Politics. (3:3:0) F.S.Su. (m) Prerequisite: Pol. Sci. 210. Grow, Williams

Relation of state and national governments, forms of state governments and politics; types of municipal governments and their development and operation.

330. Introduction to Public Administration. (3:3:0) F.S.Su. (m) Prerequisite: Pol. Sci. 210. Grow, Slover, Williams

Organization and operation of government. Relationship of administration to other branches of government; types of control over administration; central and local government.

350. Political Systems of the USSR and Eastern Europe. (3:3:0) F.S.Su. (m) Prerequisite: Pol. Sci. 250. Mabey, Morrell

The Communist Party and Soviet government; Marxist-Leninist ideology; deciding and implementation of policy; political impact upon society and the economy.

355. Political Systems of United Kingdom and Commonwealth. (3:3:0) F.S. (m) Prerequisite: Pol. Sci. 250. Mabey

Development of the British Constitution; examination of growth of cabinet government; the Crown, Parliament, Civil Service; local and governmental administration; English judicial system; the Commonwealth.

359. Political Systems of Developing Nations. (3:3:0) F.S.Su. (m) Prerequisite: Pol. Sci. 250. Farnsworth, Hillam

Study and application of analysis regarding the political systems in Asia, the Middle East and Africa, and Latin America.

☐**History 385. American Constitutional History.** (3:3:0) Melville

360. Constitutional Law of the U.S. I. (3:3:0) F.S. (m) Prerequisite: Pol. Sci. 210. Reeder, Williams

American federal system.

361. Constitutional Law of the U.S. II. (3:3:0) F.S. (m) Prerequisite: Pol. Sci. 210. Reeder, Williams

Fundamental rights and immunities.

370. International Relations. (3:3:0) F.S.Su. (m) Prerequisite: Pol. Sci. 250. Hillam

The international system and the interactions between regional and national systems; basic concepts of conflict and cooperation.

375. International Law and Organization. (3:3:0) F.S. (m) Prerequisite: Pol. Sci. 250. Reeder, Hickman, Hillam

Special emphasis will be given to the evolution of the general principles of international law and the development of international organizations.

402. Introduction to Political Philosophy. (3:3:0) F.S.Su. (m) Prerequisite: 12-15 credit hours in Pol. Sci. (for nonmajors or nonminors, Pol. Sci. 210 or 250 and Phil. 380 or 385). Melville, Midgley

General historical introduction to the major expressions of political philosophy.

422. Contemporary Problems. (2:2:0) F.S.Su. (m) Prerequisite: Pol. Sci. 210.

Selected topics which involve the formulation of public policy in the areas of economics, sociology, politics, and international relations.

451. Communist Governments and Politics. (3:3:0) F.S. (m) Morrell

Origin and development of Communist parties and governments in 14 countries and the USA.

457. Government and History of Canada. (3:3:0) S. (m) Prerequisite: Pol. Sci. 210. Recommended: Pol. Sci. 355. Grow

Growth and development of Canada and the operation of her government.

498A,B,C. Directed Readings in Political Science. (1-2:0:1-2 ea.) F.S.Su. Prerequisites: senior status and permission of department chairman and instructor.

499. Senior Seminar. (3:3:0) F.S. Prerequisite: 18 credit hours in Pol. Sci.

Research in field of concentration and writing of an extensive seminar paper. To be taken in lieu of Pol. Sci. 300.

500. Research and Writing in Public Administration. (3:3:0) F.S. Prerequisite: Pol. Sci. 330. Williams

Public administration data, methods and procedures in report writing, research approaches and patterns, and production of research reports. Designed for students who have not had Pol. Sci. 300 and who need training in research and writing in public administration, or for students who wish to concentrate in public administration.

501. Ancient Political Philosophy. (3:3:0) F. (m) Prerequisite: 12-15 credit hours in Pol. Sci. Recommended: Phil. 380 or 385. Midgley

The history of political philosophy beginning with the pre-Socratics and ending with Hobbes. (For graduate students and for undergraduates who are emphasizing the field of political philosophy or are intending to do graduate study in political science.)

502. Modern Political Philosophy. (3:3:0) S. (m) Prerequisite: 12-15 credit hours in Pol. Sci. Recommended: Phil. 380 or 385. Melville, Midgley

The history of political philosophy beginning with Hobbes and ending with the recent revival of political philosophy. (For graduate students and for undergraduates as explained under 501.)

503. Contemporary Political Philosophy. (3:3:0) (m) Prerequisite: Pol. Sci. 502 or equivalent. Melville, Midgley

Survey of the attack upon political philosophy by political theorists, and the various attempts to revive it by philosophers and theologians.

506. American Political Thought. (3:3:0) S. (m) Home Study also. Prerequisites: Pol. Sci. 310 and 402 or 502. Melville

American political and legal ideas from the colonial period to the present with an analysis of their influence upon development of American history and government.

508. Empirical Political Theory. (3:3:0) F. Prerequisite: senior or graduate status. Buckwalter, Hickman

Background, development, and critique of empirical theories about systems, functionalism, elites, etc., in the political process. Required of all graduate students, preferably during their first semester.

510. Parties and Pressure Groups in the U.S. (3:3:0) F.S.Su. (m) Prerequisite: Pol. Sci. 310. Grow

Organization and methods of action of American political parties and pressure groups.

514. The United States Presidency. (3:3:0) F.S.Su. (m) Prerequisite: Pol. Sci. 310. Melville

The American President and Vice-President, White House office, Bureau of the Budget, Cabinet, and National Security Council examined in political as well as governmental aspects.

520. American Legislative Systems. (3:3:0) F.S.Su. (m) Prerequisites: Pol. Sci. 310 or 311. Bernhard

Structure and organization of Congress and state legislative bodies; nature of business transacted and conflict resolution; influences acting upon such bodies; parliamentary procedures.

523. Intergovernmental Relations in the United States. (3:3:0) S. (m) Prerequisites: Pol. Sci. 310 and 311. Snow, Williams

Federal-state-local and interstate relations; adjustment and change in our federal system. A survey of major programs and trends; emphasis on organizational, administrative, and fiscal relationships.

525. The Military in Government and Politics. (3:3:0) (m) Prerequisites: Pol. Sci. 310 and 370 (or 250). Slover

Role of defense agencies in government; strategic alternatives for defense which affect politics, economics, and foreign relations; and role of the military in assisting governing of nations abroad.

531. Principles of Public Organization and Management. (3:3:0) S. (m) Prerequisite: Pol. Sci. 330. Grow, Harlow, Snow, Williams

Departmental organization of public agencies; organization, theory and behavior; communications; authority and control; administrative analysis and survey techniques. Emphasis is given to the public setting.

532. Public Personnel Administration. (3:3:0) F. (m) Prerequisite: Pol. Sci. 330. Grow, Williams

Treatment of processes, procedures, controls, and problems of personnel administration in the public service.

533. Budget and Fiscal Administration. (3:3:0) F. (m) Prerequisite: Pol. Sci. 330. Recommended: Acctg. 201. Snow

The principles involved in governmental budget and fiscal administration. Emphasis is given at national, state, and municipal levels.

534. State Government and Administration. (3:3:0) F. (m) Prerequisites: Pol. Sci. 311 and 330. Snow, Williams

Problems and issues in state government administration; the changing role of state government; organizational and administrative innovations to meet new and changing demands.

535. Municipal Government and Administration. (3:3:0) S. (m) Prerequisites: Pol. Sci. 311 and 330. Grow, Williams

Growth, development, and organization of cities; relationship of cities to other governments; problems and activities of modern cities.

536. City Planning. (3:3:0) S. (m) Prerequisites: Pol. Sci. 311 and 330. Recommended: Geog. 522, Sociol. 423.

Basic problems and techniques involved in city planning.

537. Public Works and Safety Administration. (3:3:0) F. (m) Prerequisites: Pol. Sci. 311 and 330. Recommended: any two of Sociol. 380, 383, 386; Psych. 350.

Basic factors underlying the efficient operation of police and fire and public works departments. Sociological and psychological problems involved; organization patterns, public relations, budget, etc.

538. International Project Administration. (3:3:0) (m) Prerequisites: Pol. Sci. 330 and 370 or 571. Slover

The administration of United States programs abroad. Problems faced, living conditions, techniques of administration, approaches to education, etc.

539. Comparative Public Administration. (3:3:0) S. (m) Prerequisites: Pol. Sci. 250 and 330. Grow, Williams

Comparative analysis of various administrative procedures and practices.

549. Political System of France. (3:3:0) S. (m) Prerequisite: Pol. Sci. 250. Recommended: Pol. Sci. 350 or 355. Morrell

The political system, including government and parties, of the French Fifth Republic; its heritage; comparisons with Switzerland, Benelux, and French Community countries.

551. Political System of China. (3:3:0) F.S.Su. (m) Prerequisite: Pol. Sci. 250. Recommended: Pol. Sci. 350. Farnsworth, Hillam

Analysis of the Communist Chinese political system within the context of the total social system; comparison will be made with Taiwan and other related countries.

552. Political System of Japan. (3:3:0) F.S.Su. (m) Prerequisite: Pol. Sci. 250. Recommended: Pol. Sci. 355. Farnsworth

Analysis of the Japanese political system within the context of the total social system; comparison will be made with Korea and other related countries.

553. **Political Systems of the Middle East.** (3:3:0) F. (m) Prerequisite: Pol. Sci. 250. Recommended: Pol. Sci. 359.

The analysis of governmental institutions of the Middle East with emphasis on the structure and dynamics of modern Middle Eastern politics.

556. **Political Systems of South America.** (3:3:0) F. (m) Prerequisite: Pol. Sci. 250. Recommended: Pol. Sci. 359.

Discussion of constitutions and political processes of Argentina, Brazil, Chile, Peru. Lesser emphasis placed on Bolivia, Paraguay, Uruguay. Attention focused on sociological and economic factors.

557. **Political Systems of Mexico and the Caribbean Area.** (3:3:0) S. (m) Prerequisite: Pol. Sci. 250. Recommended: Pol. Sci. 359.

Discussion of constitutions and political processes of Mexico, Cuba, Central America (El Salvador, Guatemala, Honduras, Nicaragua, Costa Rica, Panama), Colombia, and Venezuela. Attention focused on sociological and economic factors.

558. **Political Systems of Southeast Asia.** (3:3:0) S. (m) Prerequisite: Pol. Sci. 250. Recommended: Pol. Sci. 359. Farnsworth, Hillam

Political development of countries in Southeast Asia with special reference to the contemporary scene.

563. **Administrative Law of the U.S.** (3:3:0) F. (m) Prerequisites: Pol. Sci. 310 and 360. Reeder

Legal setting for administrative bodies and judicial control of administrative action. Cases in administrative law read and discussed.

564. **Jurisprudence.** (3:3:0) F. (m) Prerequisites: Pol. Sci. 250, 310, and 402 or equivalent. Reeder, Midgley

Problem approach to ancient and modern legal philosophies, with special attention given to the nature of justice and the relations of law to morality.

568. **Anglo-American Legal Institutions.** (3:3:0) S. (m) Prerequisite: Pol. Sci. 310. Recommended: Pol. Sci. 355. Melville, Reeder

Origins and development of common law and equity, the writ system, court systems, basic legal terms, and the anatomy of a law suit.

☐**History 384. U.S. Diplomatic History.** (3:3:0) Melville

570. **Formulation of American Foreign Policy.** (3:3:0) F.S. (m) Prerequisites: Pol. Sci. 310 and 370. Hickman

The structure and function of American national government and politics relating to the formulating of foreign policy.

571. **Contemporary U.S. Foreign Relations.** (3:3:0) F.S. (m) Prerequisites: Pol. Sci. 310 and 370. Recommended: Hist. 384. Buckwalter

Emergence of the United States as the world power and its impact upon the other major powers and representative smaller countries.

572. **USSR Foreign Relations.** (3:3:0) F.S. (m) Prerequisite: Pol. Sci. 250. Recommended: Pol. Sci. 350 and 370. Morrell

Development of Soviet Russia's foreign relations under the Bolsheviks, Comintern, etc., but especially its relations since 1945 with major areas of the world; the policies, their formulation and implementation.

573. **International Relations of Western Europe.** (3:3:0) F.S. (m) Prerequisite: Pol. Sci. 250. Recommended: Pol. Sci. 355, 549 and 370. Hickman, Morrell

Study of the transitional role of Western Europe in world politics with emphasis upon integration and defense.

575. International Law. (5:5:0) S. (m) Prerequisite: Pol. Sci. 250. Recommended: Pol. Sci. 370, 375. Reeder

Nature and function of international law; recognition, succession, jurisdiction rights, and immunities of states; nationality and jurisdiction over nations.

576. Regional International Systems. (3:3:0) F.S. (m) Prerequisite: Pol. Sci. 375. Hickman, Hillam

Analysis and comparison of selected regional international systems; regional defense, social and economic cooperation; relationship between regional and world systems; economic and political integration.

578. United States—Latin-American Relations. (3:3:0) S. (m) Prerequisites: Pol. Sci. 210 and 250. Recommended: Pol. Sci. 556, 557.

Political, economic, and cultural problems that arise from the relationships between the nations of Latin America and the United States.

580. International Relations of Asia. (3:3:0) F.S. (m) Prerequisite: Pol. Sci. 250. Recommended: Pol. Sci. 370, 551, 552, 558. Farnsworth, Hillam

Analysis of the forces and issues which influence the international system of Asia.

645A,B,C. Graduate Colloquium. (½:1:0 ea.) F.S. Graduate Faculty

Required of all graduate students each semester in residence.

690A,B,C,D. Seminar in Political Theory. (1-3:1-3:0 ea.) (m) Prerequisite: related advanced course(s). Melville, Midgley

691A,B,C,D. Seminar in Politics. (1-3:1-3:0 ea.) (m) Prerequisite: related advanced course(s). Bernhard, Grow, Melville, Slover

693A,B,C,D. Seminar in Public Administration. (1-3:1-3:0 ea.) (m) Prerequisite: related advanced course(s). Grow, Harlow, Slover, Snow, Williams

694. Project in Public Administration. (2:0:Arr.) Graduate Faculty

695A,B,C,D. Seminar in Foreign Governments and Comparative Politics. (1-3:1-3:0 ea.) (m) Prerequisite: related advanced course(s). Farnsworth, Hillam, Mabey, Morrell

696A,B,C,D. Seminar in Public Law. (1-3:1-3:0 ea.) (m) Prerequisite: related advanced course(s). Melville, Reeder, Williams

697A,B,C,D. Seminar in International Relations. (1-3:1-3:0 ea.) (m) Prerequisite: related advanced course(s). Buckwalter, Farnsworth, Hickman, Hillam, Morrell, Reeder

698. Directed Readings in Political Science. (1-2:1-2:0) F.S.Su. Prerequisite: permission of graduate committee and instructor. Graduate Faculty

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su. Graduate Faculty

Provisional Registration

(Undetermined Major)

Instructor: Goodson (coordinator, A-203 JKB).

A major purpose of the Provisional Registration Department in General College is to provide a place for those students who come to BYU and who are undecided as to their major.

These students are assigned to a faculty adviser to help them with their college adjustment, choosing their major, and planning their course programs.

An additional help to students in their efforts to choose a major is a college orientation class, identified below, which acquaints students with all of the major and minor offerings of the various colleges at BYU and the world of occupational opportunities. Students are also made aware of and encouraged to use the various resources on campus to gain the additional help and information they need in choosing their life's work.

Courses

96. Orientation and Guidance. (0:1:0) F.S. Goodson

Offered on the block plan each block. This class is designed to help students choose their college majors. In eight class sessions all of the offerings of the various BYU colleges and their related occupational opportunities are systematically considered.

Suggested Course Programs for Provisional Registration Students

The following programs suggested by the various colleges may serve as a guide in registration for those students who choose to be in General College until they decide upon their major. If a student follows the suggested program until the time he declares his major he will usually have the background courses necessary for the major he chooses within that college. A student does not need to complete the suggested program before transferring to his new college, but should transfer as soon as possible in his college career.

Biological Science, Premedical, Predental, and Preforestry

A student interested in botany, microbiology, and zoology or planning to apply to schools of medicine, dentistry, or forestry should register for the following courses. This will enable him to transfer from General College to a major department at any time during his freshman or sophomore year and continue work toward a baccalaureate or other professional degree.

To ensure completion of all requirements for the school of his choice the preprofessional student should contact the chairman of the premedical-dental committee by the end of the freshman year. A student desiring to major in botany, microbiology, and zoology should likewise contact the chairman of the department of his choice.

Freshman Year

	F	S
Undergrad. Relig. 121, 122	2	2
Engl. 111, 112	3	3
P.E.	½	½
Math. 101, 105-106 or 111	3	5
Bot. 101 or Zool. 105	3	
Bot. 110 or Zool. 212		3-4
Health 130	2	
Soc. sci. or hum.	3	
Hist. 170		3
Total Hours	16½	16½-17½

Sophomore Year

	F	S
Undergrad. relig.	2	2
P.E.	½	½
Chem. 105, 106	4	4
Physics 201, 202	5	5
Bot. 225	3	
Bot. 105 or Zool. 213	3-4	
Micro. 321 and 322		4
Electives		2
Total Hours	17½-18½	17½

Business

All students who have definitely decided on a career in business should transfer to the Business Fundamentals Division of the College of Business. Please see page 92 of this catalog.

Students who register initially as freshmen in the College of Business should complete Business Fundamentals Division requirements within a two-year period. During this period, students will have an opportunity to make final determination of their academic major. The following is a suggested two-year program for students in the General College who have some interest in the College of Business as a prospective major. This is the same program a student in the Business Fundamentals Division would follow.

Before a student can transfer to an academic major in the College of Business (accounting, business education, business management, economics, or statistics), the student must meet these requirements: (1) completion of Acctg. 201, 202; Econ. 111, 112; Math. 108; and Stat. 221 with a 2.25 (high C) grade-point average, and (2) completion of 62 semester hours of university credit.

Freshman Year

	F	S
Engl. 111, 112	3	3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Health 130	2	
Hist. 170		3
Econ. 111, 112	3	3
Math. 108	4	
Gen. ed. requirements	3	5
Total Hours	17½	16½

Sophomore Year

	F	S
Undergrad. relig.	2	2
P.E.	½	½
Acctg. 201, 202	3	3
Acctg. 232	3	
Stat. 221		3
Gen. ed. requirements	8	8
Total Hours	16½	16½

Note: This is a general suggested program only. Students going into particular majors and specialties can receive advice from the Business Fundamentals Division.

Education

A student having an interest in elementary education should register for the following courses. At the end of his freshman or sophomore year he may transfer to the College of Education without loss of credit and continue his studies toward a Bachelor of Science or Arts degree.

Freshman Year

	F	S
Undergrad. Relig. 121, 122	2	2
Engl. 111, 112	3	3
P.E.*	½	½
Geol. 101, 102	3	
Hist. 120, 121	3	3
Soc. sci. elective	3	
Dev. assy.	½	
Bot. 105, 101		3
Health 130		2
Physics 100		3
Total Hours	15	16½

Sophomore Year

	F	S
Undergrad. relig.	2	2
Speech & Dram. Arts 121	3	
Geog. 120	3	
Minor	2	3
Music 226	2	
P.E.*	½	½
Micro. 121 or 321; or Zool. 261 and 262; or Math. 306		3
Music 337		2
CDFR 210		3
Art 226		3
Dev. assy.	½	½
Zool. 315	3	
Total Hours	16	17

*During their freshman and sophomore years students should choose physical education classes from each of the following areas: folk and square dance, ½ unit; individual games, ½ unit; group games, ½ unit; physical fitness, ½ unit.

See the Teacher Education Section of this catalog for additional information.

Students having an interest in secondary education should register for the appropriate courses in other areas of Provisional Registration. For example, a person wishing to teach biological science in the secondary schools should register in courses under biological science, premedicine, predentistry, and preforestry. Or, if a person wishes to teach industrial arts, he should register in the Department of Industrial Education. At the end of his sophomore year he may transfer to the appropriate college or to the College of Education without loss of credit and continue his studies toward a Bachelor of Science or Arts degree.

Family Living

The two-year program in family living is designed for students who are undecided about a major and who wish to explore possibilities in the College of Family Living. Courses listed below in clothing and textiles, food and nutrition, housing and home management, and child development and family relationships will provide a foundation in any one of these fields for the bachelor's degree. Other courses listed below will contribute substantially toward filling general education requirements.

Freshman Year

	F	S
Undergrad. Relig. 121, 122	2	2
Engl. 111, 112	3	3
Hous. Home Mgt. 170	2	
Psych. 111	3	
Clo. & Text. 110		2
Zool. 105	3	
Physics 100	3	
P.E.	½	½
Health 130		2
Food and Nutr. 110		2
CDFR 210		3
Elective		2
Total Hours	16½	16½

Sophomore Year

	F	S
Undergrad. relig.	2	2
Chem. 101, 151	4	5
Food & Nutr. 115	2	
Econ. 101		3
Hous. Home Mgt. 201	3	
Clo. & Text. 165, 260	4	3
Art 101		2
Engl. lit.	2	
P.E.	½	½
Total Hours	17½	15½

Fine Arts and Communications

Following is a suggested sequence of courses for students interested in art, music, dramatic arts, speech, journalism, broadcasting, advertising, and public relations. It is recommended that a student transfer to the College of Fine Arts and Communications as soon as he has determined his major.

Freshman Year

	F	S
Undergrad. Relig. 121, 122	2	2
Engl. 111, 112	3	3
P.E.	½	½
Health	2	
Phys. or biol. sci.*	3	3
Fine arts electives**	7	8
Total Hours	17½	16½

*Any of the courses listed under physical science in the general education requirements will be accepted. Majors in communications should take Physics 177.

**Art 120, 121, 122, and electives from 227, 233, 239, 250, 256, 259, 263; Commun. 101, 211, 255; Mus. 101, 105, 226 (or private lessons), 170 (or private lessons or other choral group); Speech and Dram. Arts 101, 121, 123.

Humanities

It is anticipated that the student who selects the program suggested below will have a general interest in the field of humanities, but will be undecided about a subject in which to major. Completion of this two-year program will fill most of the general education group requirements, will provide training in a foreign language in anticipation of the B.A. degree, and will offer a generous sampling of humanities courses to assist the student in selecting a major. See the Humanities Section of this catalog for the humanities major program.

Freshman Year

	F	S
Undergrad. Relig. 121, 122	2	2
Engl. 111, 112	3	3
P.E.	½	½
Hum. 101	3	
Foreign lang.	4	4
Hist. 170*		3
Health 130		2
Phys. sci. electives**	3	3
Total Hours	15½	17½

Sophomore Year

	F	S
Undergrad. relig.	2	2
P.E.	½	½
Foreign lang.	4	4
Biol. sci. electives**	3	3
Engl. 250 or 251	3	
Soc. sci. electives**	2-3	3
Hum. electives**	2-3	5
Total Hours	16½-18½	17½

*Students who anticipate majoring in history, journalism, or political science should take Hist. 120 or Pol. Sci. 110 and Hist. 121 instead of Hist. 170.

**Students should be sure that the courses selected in physical science, biological science, social science, and humanities fill general education credit in these areas.

Industrial Education and Industrial Technology

A student interested in industrial education or industrial technology should contact one of these departments for assistance with his proposed program of studies. Failure to work with the department may result in delayed graduation due to the sequence of courses that must be maintained.

Freshman Year	F	S
Undergrad. Relig. 121, 122	2	2
Engr. Tech. 100	1	
Health 130, Hist. 170	2	3
Engl. 111, 112	3	3
For. & dev. assy.	1	1
P.E.	½	½
Math. 121, Physics 105	3	3
Drafting 111, 211	3	3
Indus. or tech. ed.*	2	2
Total Hours	17½	17½

Sophomore Year	F	S
Undergrad. relig.	2	2
P.E.	½	½
For. & dev. assy.	1	1
Biol. sci.**, hum.**	3	3
Soc. sci.**	3	
Engr. Tech. 101, 102	3	3
Indus. & tech. ed.	4	7
Total Hours	16½	16½

*Any course in the major area of interest.
**Any general education course to fill groups.

Nursing

Prospective students who plan to enter the College of Nursing should direct all their communications to the dean of the College of Nursing.

Following is a sequence of courses for the first semester for students interested in the baccalaureate program in nursing:

Freshman Year	F
Undergrad. Relig. 121	2
P.E.	½
Engl. 111	3
Chem. 101	4
Psych. 111	3
Micro. 121	3
Total Hours	15½

Students interested in the associate-degree program in nursing contact the dean of the College of Industrial and Technical Education on the Provo campus or the director of the associate-degree program in nursing at the Salt Lake campus.

Physical Education

Following is a suggested sequence of courses for students interested in recreation, physical and health education, athletics, and youth leadership. When a decision is reached to major in one of these areas the student should transfer immediately to the College of Physical Education and continue his work toward a baccalaureate degree. For detailed information about majoring in health, physical education, recreation, and youth leadership, the student should consult the sections of the catalog dealing with those departments.

Men

Freshman Year	F	S
P.E. 180, 181 or 182	½	½
P.E. 201, 232	2	1
P.E. 231, 233	1	1
Health 130, Math. 105	2	3
Engl. 111, 112	3	3
Hist. 170, Zool. 105	3	3
Undergrad. Relig. 121, 122	2	2
Psych. 111, Sociol. 111 or 112	3	3
Total Hours	16½	16½

Sophomore Year	F	S
P.E. 280, 235	1	1
P.E. 234, 237	1	1
P.E. 236, Physics 100	1	3
Zool. 261 and 262, Speech & Dram. Arts 102	5	2
Undergrad. relig.	2	2
Chem. 100, P.E. 370, 371, 373, or 374 (select 2)	3	4
Hum. minor subject area	4	4
Total Hours	17	17

Women

Freshman Year

	F	S
Undergrad. Relig. 121, 122	2	2
Engl. 111, 112	3	3
P.E. 187, 188, 160	1	½
P.E. 241, 242	2	2
Phys. sci.*	3	3
Soc. sci.	3	3
Health 130		2
Hum.	3	
Youth Leadership 378		2
Total Hours	17	17½

Sophomore Year

	F	S
Undergrad. relig.	2	2
P.E. 244, 245, 207	4	2
P.E. 181, 182	½	½
P.E. 180, 161	½	½
Zool. 105, 261, 262	3	5
Hist. 170	3	
Health 121		2
P.E. 375		2
Tchr. Ed. 301		2
Minor		2
P.E. 330	3	
P.E. 286	1	
Total Hours	17	18

*Any of the courses listed under physical science in the general education requirements will be approved.

Physical and Engineering Sciences

The following course of study is recommended for one or two years. At the end of either, the student may choose a major, transfer into the College of Physical and Engineering Sciences, and pursue his education to the completion of a Bachelor of Science degree in chemistry, geology, mathematics, or physics. To avoid loss of time, this transfer should be made as early as possible. Students who are interested in engineering but who have not chosen a specific field should enroll directly in the preengineering curriculum outlined under the College of Physical and Engineering Sciences. These students should refer to the program of studies of the department in which they have a particular interest.

Freshman Year

	F	S
Math. 111, 112*	5	4
Chem. 105, 106**	4	4
Engl. 111, 112	3	3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Health 130		2
Electives	3	2
Total Hours	17½	17½

Sophomore Year

	F	S
Math. 113, 214	4	3
Physics 211, 213	4	4
Physics 212, 214	1	1
Undergrad. relig.	2	2
P.E.	½	½
Hist. 170	3	
Electives (biol. and/or hum.)	3	7
Total Hours	17½	17½

*Math. 111 requires a mastery of second-year high school algebra or Math. 101. Students who do not have an adequate background in high school algebra must take Math. 101 before enrolling in either Math. 111 or Math. 105. High school plane geometry is a prerequisite for Math. 111 or Math. 106.

**Chemistry majors should take Chem. 111 or 112.

Social Science

It is anticipated that the student selecting the program suggested below will have a general interest in the social sciences, but will be undecided about a subject in which to major. Completion of this two-year program will fill most of the general education group requirements and should permit a generous enough sampling of social science courses to assist in selecting a major.

Freshman Year

	F	S
Undergrad. Relig. 121, 122	2	2
Engl. 111, 112	3	3
P.E.	½	½
Health 130	2	
Sociol. 111 or 112	3	
Hist. 170*	3	
Psych. 111		3
Electives in phys. sci.**	3	3
Elective in biol. sci.**		2-3
Elective in hum.**		2-3
Total Hours	16½	15½-17½

Sophomore Year

	F	S
Undergrad. relig.	2	2
P.E.	½	½
Econ. 101 or 111	3	
Pol. sci.	3	
Geog. 101 or 120		3
Anthrop. 101		3
Engl. lit.	2	2
Electives in foreign lang. or hum.**	4	4
Electives in biol. sci.**	3	
Electives in soc. sci.		3
Total Hours	17½	17½

*Students who anticipate majoring in economics, history, journalism, or political science should take Hist. 120 or Pol. Sci. 110 and Hist. 121, instead of Hist. 170.

**Students should be sure that the courses selected in physical science, biological science, social science, and humanities fill general education credit in these areas.

A provisional registration student receiving counsel from his dean

Psychology

Professors: Allen, Hardy, Howell, Moffitt, Robinson.

Associate Professors: Bennion, Cooper, Cundick, Daniels, Payne, Pedersen (chairman, 1230 SFLC), Smith, Stimpson.

Assistant Professors: Jensen, Johnson, Merrill, Thorne.

Instructors: Budge, Morrill, Ravsten.

The study of psychology should be of value to the general student in the following ways: (1) provides him with a scientific understanding, for its own sake, of behavior and experience; (2) develops insights into his own behavior and that of others which are useful in meeting everyday problems of life; (3) assists in cultivating more careful habits of thought concerning human behavior; and (4) enhances his appreciation of people.

The field of psychology offers careers in college and high school teaching; various counseling services in elementary and secondary schools; clinical service in clinics, institutions, and private practice; various psychological services in business, industry and government; research in basic and applied psychology. Most professional fields of psychology require advanced degrees, but there are a limited number of opportunities for those with bachelor's degrees, such as high school teaching, probation and junior-level social work, employment interviewing and testing, and junior-level psychological testing (psychometry).

The study of psychology also has particular value to students preparing for teaching and counseling of any kind, social work, parenthood, law, medicine, various branches of business, and public administration. Psychology may also be of value in any other specialization concerned with man and his works.

In general, undergraduate students may take any psychology course at or below the 500 level during any year providing they have met the course prerequisites. The size of the number does not indicate the year that the course is normally taken.

Students majoring in psychology must take (a) Psych. 111; (b) Psych. 369, or both Psych. 370 and 374; (c) three of the following four courses: Psych. 360, 365, 450, and 460; (d) Psych. 491, 492, or 493, or Psych. 498; and (e) additional courses to make a total of 30 semester hours.

In general, students anticipating doing graduate study in psychology should take Psych. 370 and 374. In order to be admitted into graduate work in the Psychology Department at Brigham Young University, students will be required to complete Psych. 111, 370, 374, 378 and three of the following four courses: Psych. 360, 365, 450, and 460.

Students who plan to gain employment in social work upon completion of the bachelor's degree or who plan to enter a graduate school of social work may major in psychology and minor in undergraduate social work. It is recommended that these students take the following psychology courses: (a) Psych. 111; (b) Psych. 369 or both Psych. 370 and 374; (c) Psych. 440; (d) Psych. 450; (e) Psych. 350 or 357; and(f) at least one of the following: Psych. 320, 321, 322 or 445. An undergraduate social work minor should include 15 hours from the following courses: Sociol. 111 or 112, 360, 362, 389, 403, 404, and 543.

Note: Students planning to certify as elementary or secondary school teachers should consult the Teacher Education Section.

Students majoring in psychology may select a wide range of subjects for a minor field, depending upon their educational and vocational objectives. They are urged to consult with their adviser regarding this choice. Students planning to terminate with a bachelor's degree should choose a minor area which will broaden their employment opportunities. Suggested areas are secretarial work, various branches of business, recreation, and social work.

To fulfill the additional general education requirements for the baccalaureate degree, the psychology major is encouraged to take as much work in a foreign language (preferably German, French, or Russian) as possible, and to also take courses in the mathematics, logic, science, and statistics area.

For a minor in psychology the following program is recommended: Psych. 111, 369, plus electives from the remaining undergraduate and 500-series courses to make a total of 14 semester hours.

The following graduate programs are offered: a master's degree in general psychology; a master's degree for school psychologists; a Ph.D. in clinical psychology; and a Ph.D. in social psychology. See the Graduate School Catalog for details on these programs.

As part of the training of graduate students, a psychological clinic is maintained by the Psychology Department for the diagnosis and treatment of behavioral and emotional disorders in children and adults. A limited number of selected individuals (other than University students) will be accepted depending on the training needs of the department.

Courses

111. General Psychology. (3:3:0) F.S.Su. Home Study also. (G-SS)
Foundation course covering essentials of modern scientific psychology. Prerequisite for most upper-division psychology classes.

211. Frontiers of Psychology. (3:3:0) F.S.Su. Prerequisite: Psych. 111.
Intensive survey of the general field with special emphasis on topics not covered in detail in Psych. 111.

240. Personal and Social Adjustment. (2:2:0) F.S.Su. Home Study also.
Study of the prevention and amelioration of mental and personal difficulties.

320. Psychology of Childhood. (3:3:0) F.S.Su. Home Study also. (G-SS) Prerequisite: Psych. 111. Budge, Cundick, Jensen
Critical presentation of research on physical, mental, emotional, and social development of the child and his interests, values, and motivations.

321. Psychology of Adolescence. (3:3:0) F.S.Su. Home Study also. (G-SS) Prerequisite: Psych. 111. Budge, Cundick, Jensen
Development and maturation during adolescence, with special attention to research methodology. Programs of sex-social adjustment, independence, vocational adjustment, and emotional and social maturing in our society.

322. Psychology of Adult Life. (2:2:0) S.Su. Home Study also. (G-SS) Prerequisite: Psych. 111. Allen, Cundick
Physiological, intellectual, personality, and motivational changes associated with adulthood; geriatric and gerontological emphasis.

330. Industrial Psychology. (2:2:0) F.S. Home Study also. Prerequisite: Psych. 111. Smith
Special application of psychology in human relations program for management. Important issues in relation to motivation, morale, safety, efficiency, etc.

336. Personnel Psychology: Theory and Practice. (2:2:0) F.S. Prerequisites: Psych. 111 and concurrent registration in Psych. 337. Smith
Employment interviewing techniques; validation of psychological tests, biographical questionnaires.

337. Practicum in Personnel Psychology. (2:1:6) F.S. Prerequisites: Psych. 111 and concurrent registration in Psych. 336.

Supervised experience in testing, job analysis, interviewing, and exposure to current personnel programs now in effect. Lecture will cover new material and discuss practicum experience.

350. (Sociol.-Psych.) Introduction to Social Psychology. (3:3:0) F.S.Su. Home Study also. (G-SS) Prerequisite: Psych. 111 or Sociol. 111. Hardy, Stimpson

Nature of social influence; socialization; concepts of norm, role status; development of beliefs and attitudes; leadership; and group processes. Applications to prejudice, persuasion, and social control.

357. (Sociol.-Psych.) Group Relations and Leadership. (3:2:2) F.S.Su. Prerequisite: Psych. 111 or Sociol. 111. Daniels, Hardy, Moffitt, Stimpson

Designed to help the individual participate effectively in groups and to assist leaders to become efficient in role performance.

360. Sensation and Perception. (3:3:0) F.S.Su. Prerequisite: Psych. 111. Allen, Budge

Sensory mechanisms, sensory dimensions and measurement; theories of organization; perception of space, time, self, persons; relationship between perception, learning, thinking, motivation and personality.

362. Cognitive Processes. (3:3:0) F.S. Prerequisite: Psych. 111. Daniels

A study of thinking, language and thought, concept formation, memory, and the teaching and learning of strategies for synthesis, analysis, and creative problem solving.

365. Motivation. (3:3:0) F.S.Su. Prerequisite: Psych. 111. Hardy

Core course for majors and other advanced students. Theories of motivation; research methods and results; bases of motivation; emotions and motivation; measuring motivation; motivation as related to learning and cognitive processes; and practical implications.

369. Psychological Methods. (3:3:0) F.S.Su. Prerequisite: Psych. 111. Staff

Does not satisfy the math., science, logic, and statistics group requirement.

The empirical orientation of psychology, including a survey of research strategies and designs, techniques of data collection and analysis, and problems of testing and assessment.

370. Elementary Psychological Statistics. (4:3:2) F.S.Su. Prerequisites: Psych. 111, Math. 105 or equivalent. Cooper, Pedersen, Smith

Introduction to descriptive and inferential statistics. Measures of central tendency, variability, correlation; sampling theory, tests of significance; and reliability and validity.

374. Experimental Psychology. (3:1:4) F.S.Su. Prerequisites: Psych. 111, 370 or equivalent. Allen, Merrill

Psychological methodology and its application to fields of sensation, perception, emotion, learning, motivation and individual differences; conducting and reporting of representative experiments.

378. Psychological Tests and Measurement. (3:2:2) F.S.Su. Prerequisites: Psych. 111, 370. Pedersen

Core course for majors, minors, and other advanced students; statistical methodology of assessing and interpreting abilities; tests of abilities and their purposes; and group differences of abilities.

385. Physiological Psychology. (3:3:0) F.S.Su. Prerequisite: Psych. 111. Merrill

Examination of the physiological foundations of behavior and their relation to behavior phenomena.

430. International Behavior. (3:3:0) F. Hardy

Consideration of images, attitudes, belief systems, and motives as they affect international relationships. Reviews research on conflict and its resolution, game theory, and bargaining behavior.

440. Abnormal Psychology. (3:3:2) F.S.Su. Prerequisites: Psych. 111 and five additional hours in psychology. Bennion, Howell, Payne, Thorne

Dynamics of maladjustment; implications for normal behavior; review of major and minor psychological disorders; modern therapeutic procedures; and field work at Utah State Hospital.

445. Exceptional Children. (3:3:0) S.Su. Home Study also. Prerequisite: Psych. 111. Allen, Cundick, Thorne

Diagnosis of exceptionalities and their psychological significance; gifted, mentally retarded, physically and emotionally handicapped children; and treatment measures. Survey course for students interested in management of children.

450. Personality. (3:3:0) F.S.Su. Home Study also. Prerequisite: Psych. 111. Daniels, Pedersen, Thorne

Development and organization of personality structure; interaction of biological, psychological, and cultural determinants; and measurement of personality.

454. Psychology of Religion. (2:2:0) S. Prerequisite: Psych. 111. Allen

Classification of religious behavior and experience; sources of religious motivation; religion and the growth process; personality and religious choices; and mental hygiene assets and hazards in religion.

460. Principles of Learning. (3:3:0) F.S.Su. Prerequisite: Psych. 111. Cooper, Jensen, Merrill

A comprehensive study of the principles of learning; representative experiments; types of learning; principles of effective learning; and implications for clinical, educational, and social fields.

478. Psychology of Individual Differences. (3:3:0) F.S.Su. Prerequisite: Psych. 111. Jensen, Thorne

Individual differences in human and infra-human species. Constitutional types, sex, age, and racial characteristics.

491, 492, 493. Psychology Seminar. (1:1:0 ea.) F.S.Su.

One seminar required of psychology majors. Reports and discussions of special topics and current psychological literature.

495. Independent Readings. (1-2:Arr.:Arr.) F.S.Su. Prerequisite: consent of instructor.

498. Senior Project. (2:1:3) F.S.Su. Prerequisites: Psych. 370, 374, and senior standing. Staff

An opportunity for the exceptional senior student to pursue individual research. Oral and written report required. Recommended for those anticipating graduate work in psychology.

510. The Psychology of Aesthetics. (2:2:0) (Offered alternate years) Prerequisite: Psych. 111. Daniels

The arts of perceptual stimuli; the nature of artistic creativity; psychological symbolism expressed in the arts; and the artist as a person.

520. Research and Method in Genetic Psychology. (3:3:0) S. Cundick, Jensen

An overview of major research in genetic psychology with emphasis placed on theory, content, and methodology.

526. Mental Retardation. (2:2:0) S.Su. Prerequisite: Psych. 378 or equivalent. Allen, Thorne

530. Theory and Research in Social Psychology. (3:3:0) S. Prerequisite: Sociol. 350 or Psych. 350. Hardy, Stimpson

A survey, in depth, of current theory and research in social psychology, with emphasis on understanding the individual in his interpersonal interaction.

550. Personality Theory. (3:3:0) S.Su. Prerequisites: Psych. 111, 450, and five additional hours in psychology. Allen, Howell, Moffitt, Thorne

A critical review of the contemporary theories of personality that have been developed within the framework of major psychological systems.

555. (Sociol.-Psych.) Group Dynamics. (3:3:0) S. Prerequisite: Sociol.-Psych. 350. Daniels, Hardy, Moffitt, Smith, Stimpson

Research and theories in group dynamics. May be used for credit either in psychology or sociology, but not in both.

560. Learning Theory. (3:3:0) F.Su. Prerequisites: Psych. 111, 460, and five additional hours in psychology. Allen, Cooper, Jensen, Merrill

A critical review of current theories of learning and persistent problems.

562. Perception and Cognition. (3:3:0) Prerequisites: Psych. 360, or 362, or equivalent; graduate standing or consent of instructor. Allen, Daniels

A study of major theoretical and empirical developments in perception and cognition with emphasis on the interaction of sensory, perceptual, learning, and thinking processes.

565. Motivational Psychology. (3:3:0) F. Prerequisites: Psych. 365 or equivalent; graduate standing or consent of instructor. Daniels, Hardy

Historical development of motivational psychology; theoretical and empirical overview of the field; recent trends and current issues. Role of animal studies; methodological problems.

570. Computer Use in Behavioral Sciences. (3:3:6) F.S. Prerequisite: Psych. 370 or equivalent. Carlson

The use of electronic digital computers in the behavioral sciences.

574. Advanced Experimental Psychology. (2:1:5) S. Prerequisites: Psych. 111, 374 or equivalent. Merrill

Principles of instrumentation; varieties of experimental designs; and nature of experimental controls. Gives experience in planning, conducting, and reporting original exploratory experiments.

580. Comparative Psychology. (3:3:0) S. Prerequisite: Psych. 111. Merrill

Survey of methods and results of research on animal learning, innate behavior, motivation, individual differences, social behavior, and abnormal behavior; correlation of structure with function.

585. Advanced Physiological Psychology. (3:3:0) F. Prerequisite: Psych. 111. Merrill

Critical study of physiological processes and psychological functions; physiological mechanisms underlying behavioral processes, including sensation, emotion, sleep and activity, motivation, and learning.

598. Independent Research. (1-3:0:2-6) F.S.Su.

610. History and Systems of Psychology. (3:3:0) S.Su. Prerequisite: graduate standing. Allen, Howell

A survey of the origins and development of modern psychology including consideration of the schools and theoretical systems which have emerged up to the present day.

620. Advanced Genetic Psychology. (3:3:0) (Offered alternate years) Prerequisite: Psych. 520. Cundick

A critical consideration within the developmental framework of factors affecting socialization, intelligence, motor development, language processes, and other important behavioral variables.

628. Psychology of the Physically Handicapped. (2:2:0) F. (Offered alternate years) Prerequisite: Psych. 378.

630. **Attitude Change.** (3:3:0) F. Prerequisite: graduate standing or consent of instructor. Stimpson

An examination of various theoretical approaches to the study of attitude development, change, and assessment, including a focus on both individual and mass persuasion.

640. **Intelligence Testing.** (3:3:5) F.S.Su. Prerequisites: Psych. 378 or Grad. Ed. 645 and consent of instructor. Bennion, Cundick, Howell

641. **Personality Testing.** (3:2:3) F. Prerequisites: Psych. 550 and 640. Bennion, Robinson

642. **Child and Adolescent Assessment.** (3:2:6) S. Prerequisite: Psych. 640. Bennion, Cundick

643. **Adult Assessment.** (3:2:5) Prerequisite: Psych. 641. Howell

644. **Advanced Rorschach.** (3:2:5) S. Prerequisite: Psych. 643. Bennion, Howell

645. **Professional Problems in Psychology.** (3:3:0) S. Prerequisite: major or minor in psychology. Howell

651. **Psychopathology.** (3:3:2) F. Prerequisites: nine hours in psychology. Bennion, Howell, Thorne

654. **Dynamics of Religious Behavior.** (3:3:0) Prerequisite: Psych. 111. Allen

662. **Complex Thought Processes.** (3:3:0) S. Prerequisite: Psych. 360. Daniels

665. **Human Motivation.** (3:3:0) F.S. Prerequisites: Psych. 365 or equivalent; graduate standing in psychology or allied discipline. Hardy

670. **Advanced Statistics I.** (3:3:2) F. Prerequisite: Psych. 370. Pedersen

671. **Advanced Statistics II.** (3:3:2) S. Prerequisite: Psych. 670. Pedersen

672. **Psychological Scaling.** (3:3:0) S. (Offered alternate years) Prerequisite: Psych. 670. Pedersen

Scaling theory and methodology, with emphasis upon measurement in psychophysics and differential psychology.

673. **Multivariate Analysis in Psychology.** (3:3:0) S. (Offered alternate years) Prerequisite: Psych. 670. Pedersen

The principal descriptive statistics used in the analysis of multiple measurements: factor analysis, canonical correlation, multivariate analysis of variance and covariance, and multiple discriminant analysis.

675. **Personality Dynamics.** (3:3:0) F. Prerequisites: undergraduate core courses and consent of instructor. Howell, Moffitt, Thorne

678. **Measurement Theory.** (3:3:0) S. Cooper, Pedersen

680. **Introduction to Psychotherapy.** (3:3:0) S. Prerequisites: undergraduate core courses and consent of instructor. Bennion, Robinson, Thorne

681. **Group Therapy.** (3:1:6) S. Prerequisite: Psych. 680. Howell, Thorne

682. **Child Therapeutic Techniques.** (3:3:3) S. Prerequisites: undergraduate core courses and consent of instructor. Cundick, Howell, Thorne

683. **Behavior Modification Therapy.** (3:2:1) F.S. Prerequisites: Psych. 460 or equivalent. Thorne

690. **Seminar: Research Problems.** (2:2:0) F.

695. **Independent Readings.** (1-2:Arr.:Arr.) F.S.Su.

699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.

730. The Consultative Process. (3:2:2) (Offered alternate years) Prerequisite: Psych. 357. Moffitt, Stimpson

Nature of the consultative relationship. Essential elements involved in consultation, forces operating in consultation, relationship, developing effective strategy for consultation.

740A,B,C. Practicum in Assessment. (3:0:8) F.S.Su. Prerequisites: Psych. 642, 643. Bennion, Howell, Payne

750,751,752,753. Clinical Internship. (0:0:32 ea.)

757. (Sociol.-Psych.) Practicum in Group Development. (3:1:4) Prerequisites: graduate standing in psychology or sociology; Sociol.-Psych. 357, 555, consent of instructor.

780A,B,C. Practicum in Psychotherapy: Adult. (3:0:8 ea.) F.Su. Prerequisite: Psych. 680. Bennion, Howell, Thorne

781A,B,C. Practicum in Psychotherapy: Child. (3:0:8 ea.) S. Prerequisite: Psych. 682. Bennion, Howell, Thorne

784A,B. Sensitivity Training. (0:0:3 ea.) F.S. Howell

790A,B,C. Seminar in Genetic Psychology. (2:2:0 ea.) Prerequisite: consent of instructor. Cundick

791A,B,C. Seminar: Personality. (2:2:0 ea.) Prerequisite: consent of instructor.

792A,B,C. Seminar: Social Psychology. (2:2:0 ea.) Prerequisites: consent of instructor, Sociol.-Psych. 350. Hardy, Smith, Stimpson

793A,B,C. Seminar: Perception and Cognition. (2:2:0 ea.) Prerequisite: consent of instructor.

794A,B,C. Seminar: Motivation. (2:2:0 ea.) Prerequisite: consent of instructor. Hardy, Daniels

Consideration of selected topics in motivation.

795A,B,C. Seminar: Learning. (2:2:0 ea.) Prerequisite: consent of instructor. Cooper, Jensen, Merrill

797, 798. Independent Research. (1-4:0:3-12 ea.) F.S.Su. Prerequisite: consent of instructor.

799. Ph.D. Dissertation. (Arr.) F.S.Su.

Recreation Education

Professors:	Hartvigsen, I. Heaton (chairman, 273-C RB), C. Jensen.
Associate Professors:	Hafen, Packer, Shaw.
Assistant Professors:	Call, A. Heaton, M. Jensen, Naylor, Uibel.
Instructors:	deHoyos, Hansen, Mavor, Olsen, Uzelac.

A student interested in this field may obtain a recreation major, a minor, or a composite major. He may also take specified recreation courses to fill certain general education requirements, and he may register for recreation courses on an elective basis.

Recreation Education Major

See the department chairman for course requirements. See the Teacher Education Section of the catalog for the requirements for teacher certification.

Recreation Education Minor

Students minoring in recreation education should take the following courses: Rec. Ed. 123, 301, 337, 387, 388, 407, and 505.

Those recreation education majors who minor in horticulture should take Hort. 103, 317, 318, 319, and 430.

Seasonal Intramural Participation

Students are encouraged to participate in the following intramural activities, which are on a noncredit basis. These activities are conducted from 6 to 10 p.m. on Monday, Wednesday, and Thursday evenings and all day on Saturday.

Autumn	Winter	Spring
Badminton	Basketball	Archery
Cross-country run (Turkey Trot)	Broom Ball Hockey	Badminton
	Checkers	Bicycle race
Flag football	Chess	Diving
Golf (corecreational)	Fencing	Golf
Handball	Gymnastics	Handball
Swimming	Ice skating	Horseshoes
Table tennis	Paddleball	Softball
Tennis	Skiing	Swimming
Volleyball (corecreational)	Table tennis (corecreational)	Table tennis
		Tennis
Water basketball	Wrestling	Track and field

Courses

85, 86. **Precision Dance Drill.** (0:0:3 ea.) F.S. Hyatt

123. **Introduction to Outdoor Recreation.** (1:0:3) F.S. (m) Uibel

301. Introduction to Recreation. (2:2:0) F.S.Su. (m) Hafen, Naylor

337. Philosophy of Recreation. (2:2:0) F.S.Su. Home Study also. (G-SS m) Naylor

371. Family Recreation. (2:2:0) F.S.Su. (m) Prerequisite: Rec. Ed. 357. A. Heaton

387. Planning for Social Recreation. (2:2:0) F.S.Su. Home Study also. (m) A. Heaton

388. Leadership in Dance. (2:2:0) F.S.Su. (m)

Designed to give experience and training in dance programs for community, school, and church recreation leaders.

407. Administration of Playgrounds and Community Centers. (3:3:0) F.S.Su. (m) Prerequisites: Rec. Ed. 301, 337, 387. Hafen, Naylor

410. Problems and Trends in Outdoor Recreation. (2:2:0) S.Su. C. Jensen

479. Directed Leadership in Recreation. (4-8:1:20-40) F.S.Su. Prerequisite: Rec. Ed. 407 or consent of instructor. Hafen

Supervised experience in public and/or private recreational programs.

502. Camping Workshop. (2:2:4) Su. (m) Fee of $10.00 required. Packer

Featuring training and preparations for a week of laboratory experience in a primitive area.

503. Administration of School and Community Camps. (2:2:0) S. (m) Hafen

Objectives and problems involved in establishing community and school camps. Best practices dealing with location, safety, health, and program of activity are thoroughly analyzed.

505. Administration of Community Recreation. (3:3:0) F.S.Su. (m) Prerequisites: Rec. Ed. 301, 337. I. Heaton

Problems peculiar to the organization and administration of a community recreation program including objectives, legal aspects, facilities, personnel, activities, budgeting and public relations.

570. Recreation for the Ill and Handicapped. (2:2:0) F.Su. Call

583. Workshop in Recreational Dance. (1-2:0:40-80) F.S.Su. A. Heaton

609. The Recreation Program. (2:2:0) F.Su. C. Jensen

691. Graduate Seminar. (0:1:1) F.S.Su. I. Heaton

692. Research Methods in Recreation. (3:3:0) F.S.Su. Shaw

694. Seminar in Readings. (2:2:0) F.S.Su. Hartvigsen

695. Seminar in Community-School Recreation. (2:2:0) S.Su. Olsen

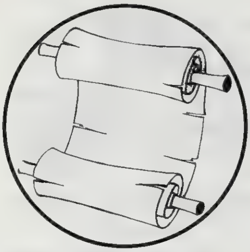
696. Seminar in Problems in Recreation. (1:1:0) S.Su. I. Heaton

698. Field Projects. (1-4:2-5:0) F.S.Su. Staff

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su. Staff

See the Recreation Education Department office for courses from other departments which count in recreation.

Religious Instruction — Graduate Studies



Professors: R. L. Anderson, Andrus, Barron, Clark, Doxey, Horsley, Ludlow, Madsen, Nibley, Rich, Riddle (chairman, 123 S), Sperry, Turner, Yarn.

Associate Professors: Backman, Berrett, Cowan, Patch, Palmer, Pearson, H. Peterson, Rasmussen.

Assistant Professors: Bowen, Hartshorn, M. Petersen, Warner.

The Department of Graduate Studies in Religious Instruction has three programs in which master's and doctor's degrees may be obtained. These programs are Bible and Modern Scripture, History of Religion, and Religious Education. The requirements for each of these degrees are to be found in the Graduate School Catalog.

Courses

(Note: Courses where the semester is not designated are specialized offerings given on demand.)

501. Analysis of the Old Testament: The Pentateuch and Historical Books. (3:3:0) F.Su. Rasmussen, Sperry

502. Analysis of the Old Testament: Prophetic Books. (2:2:0) S.Su. Rasmussen, Sperry

503. Analysis of the Old Testament: Poetic and Wisdom Literature. (2:2:0) S.Su. Rasmussen, Sperry

510. The Gospels. (2:2:0) F.Su. R. L. Anderson

511. Paul's Life and Letters. (2:2:0) F.Su. R. L. Anderson

512. The General Epistles and the Apocalypse. (2:2:0) S.Su. R. L. Anderson

513. New Testament Times. (2:2:0) S.Su. R. L. Anderson

527. History and Doctrines of the Pearl of Great Price. (3:3:0) F.Su. Andrus, Clark

530. LDS Theology. (2:2:0) F.Su. Riddle, Turner

541. Documents of LDS Church History (1820-1839). (3:3:0) F.Su. Andrus, Backman, L. Berrett, Clark, Rich

542. Documents of LDS Church History (1839-1850). (3:3:0) S.Su. Andrus, Backman, L. Berrett, Clark, Rich

543. Documents of LDS Church History (1850-1900). (3:3:0) F.Su. L. Berrett

544. Documents of LDS Church History (1900 to Present). (3:3:0) Arr. Cowan

546. Social, Economic, and Political Thought of Joseph Smith. (2:2:0) Arr. Andrus

548. Historical Setting of Mormonism. (3:3:0) F.Su. Allen, Backman, Cowan

551. The Primitive Church. (2:2:0) F. Nibley

552. Christianity in the Second and Third Centuries. (2:2:0) S. Nibley

554. Martin Luther, Forerunner of the Restoration. (2:2:0) Arr. Horsley

555. Comparative World Religions. (2:2:0) Arr. Palmer

556. Comparative World Religions. (2:2:0) Arr. Palmer

557. Religions of the Ancient Near East. (2:2:0) F. Nibley

558. Christian Rites and Liturgy. (2:2:0) Arr. Nibley

559. History of Christianity in Asia. (2:2:0) F. Palmer

570, 571. Methods of Teaching Religion in Secondary Schools. (2:5:0 ea.) Su. W. E. Berrett

593, 594. Hebrew Grammar and Selected Readings. (3:3:0 ea.) F.S. Sperry

601. History of the Hebrews. (3:3:0) F. Rasmussen, Sperry

604. The Literature of the Old Testament. (2:2:0) S. Rasmussen, Sperry

605. Canon and Text of the Old Testament. (2:2:0) F. Rasmussen, Sperry

606. The Apocrypha and Pseudepigrapha. (2:2:0) S. Rasmussen, Sperry

608. Cultural and Religious Patterns of the Ancient Near East. (2:2:0) S. Sperry

610. Early Christian Literature. (2:2:0) F. R. L. Anderson

611. Formation of the New Testament: Text and Canon. (2:2:0) Arr. Sperry

612. Textual Criticism of the New Testament. (2:2:0) Arr. R. L. Anderson

621. Analysis of the Book of Mormon. (Doctrinal) (3:3:0) F.Su. Ludlow, Sperry

622. Analysis of the Book of Mormon. (External Evidence) (3:3:0) S.Su. Ludlow, Sperry

624. Analysis of the Doctrine and Covenants. (3:3:0) F.Su. Andrus, Doxey

625. Analysis of the Doctrine and Covenants. (3:3:0) S.Su. Andrus, Doxey

627. Seminar: Pearl of Great Price. (2:2:0) S. Andrus, Doxey

641. Special Problems in LDS Church History. (3:3:0) Arr. Andrus, Backman, L. Berrett, Rich

643. Schismatic Movements in Mormon History. (2:2:0) S.Su. Rich

645. Historical Development of LDS Doctrine and Practices. (3:3:0) Arr. Andrus, Backman, L. Berrett, Rich

653. History of the Papacy. (2:2:0) F. Horsley

654. Reformation and Counter-Reformation. (2:2:0) S. Horsley

658. Comparative Studies in American Religions. (3:3:0) F.S. Backman

659. American Religious Thought. (2:2:0) Arr.

660. Seminar in History of Asian Religion. (2:2:0) S. Palmer

670. Survey of Religious Education. (2:2:0) S. Turner

671. Curriculum of Religion in Secondary Schools. (2:5:0) Su. W. E. Berrett

672. Religious Curriculum Building for Secondary Schools. (2:5:0) Su. Prerequisite: Grad. Relig. 671. W. E. Berrett

673, 674. Methods of Teaching Religion in College. (2:5:0 ea.) Su. W. E. Berrett

675. Curriculum of Religion in College. (2:5:0) Su. W. E. Berrett

676. Religious Curriculum Building for Colleges. (2:5:0) Su. Prerequisite: Grad. Relig. 675. W. E. Berrett

677. Problems of Teaching Religion. (1:3:0) Arr. W. E. Berrett

680. Philosophic Problems and Religious Instruction. (1:3:0) Su. Riddle, Yarn

690. Studies in the Hebrew Old Testament. (3:3:0) Arr. Prerequisite: two years of Hebrew or consent of instructor. Sperry

691. Studies in Hebrew. (3:3:0) Arr. Prerequisite: Grad. Relig. 690. Sperry

693, 694. Biblical Aramaic and the Targums. (2:2:0 ea.) Arr. Prerequisite: at least one year of Biblical Hebrew. Sperry

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) Arr.

709. Seminar: Old Testament. (2:2:0) Arr. Sperry

710. Seminar: New Testament. (2:2:0) Arr. R. L. Anderson

711. Readings in Greek: The Gospel and Acts. (3:3:0) Arr. Prerequisite: one year of Greek or consent of instructor. R. L. Anderson, Nibley

712. Readings in Greek: Paul's Letters. (3:3:0) Arr. Prerequisite: one year of Greek or consent of instructor. R. L. Anderson, Nibley

713. Readings in Greek: General Epistles and the Apocalypse. (3:3:0) Arr. Prerequisite: one year of Greek or consent of instructor. R. L. Anderson, Nibley

718. Readings in Old Testament Studies. (1-2:Arr.:0) (Offered on demand) Prerequisites: Grad. Relig. 501, 502, 503. Sperry

Individual study in the area of Old Testament scholarship.

721. Seminar: Book of Mormon. (2:2:0) Arr. Ludlow, Sperry

724. Seminar: Doctrine and Covenants. (2:2:0) Arr. Andrus, Doxey

728. Readings in Modern Scripture. (1-2:Arr.:Arr.) Arr. Andrus

738. Readings in New Testament. (1-2:Arr.:0) (Offered on demand) Prerequisites: Grad. Relig. 510, 511, 512. Anderson

Individual study in the area of New Testament scholarship.

748. Readings in LDS Church History. (1-2:1-2:0) Arr. Andrus, Backman, L. Berrett, Rich

755. Seminar: History of Religion. (2:2:0) F.S.Su. Arr. Andrus, Horsley, Palmer, Rich

758. Readings in Christian History. (1-2:1-2:0) Arr. Nibley

759. Readings in the History of World Religions. (1-2:1-2:0) Arr. Nibley

791. Syriac. (5:5:0) Arr. Prerequisite: two years Biblical Hebrew or one year Aramaic. Sperry

792. Syriac. (3:3:0) Arr. Prerequisite: Grad. Relig. 791. Sperry

793, 794. Akkadian. (2:2:0 ea.) Arr. Prerequisite: two years Biblical Hebrew. Sperry

797, 798. Ugaritic. (3:3:0 ea.) Arr. Prerequisite: two years Biblical Hebrew.

The alphabet, vocabulary, and grammar of the language of the Ras Shamra tablets. Valuable for its parallels to Biblical Hebrew.

799. Doctoral Dissertation. (Arr.) Arr.

Religious Instruction — Undergraduate Studies

Professor: Doxey (chairman, 122 S).

Associate Professors: Bankhead, Barrett, Skousen.

Assistant Professors: W. K. Andersen, Bentley, Butler, Cheesman, Cook, Fugal, Harris, Meservy, Nyman, Parsons, Ricks, Stevenson.

Courses in the Department of Undergraduate Studies in Religious Instruction are offered to help students meet the religion requirements of the University. An undergraduate major or minor is not offered in this department. For further information on religion requirements, see listing of general education requirements.

Courses

121, 122. Introduction to the Book of Mormon and Its Teachings. (2:2:0 ea.) F.S.Su. Home Study also. (G-R)

Consideration of origin, content, and teachings of the Book of Mormon. It is suggested that returned missionaries and upper-division transfer students take Undergrad. Relig. 421, 422, History and Teachings of the Book of Mormon, in lieu of Undergrad. Relig. 121, 122.)

211. Introduction to the New Testament: Jesus and the Apostles. (2:2:0) F.S.Su. Home Study also. (G-R) Bentley, Patch, Ricks, Yarn

The Gospels and part of the Book of Acts.

212. Introduction to the New Testament: Paul and the Early Church. (2:2:0) F. S.Su. Home Study also. (G-R) Bentley, Patch, Ricks

Paul and his letters and the literature of the early church.

230, 231. The Gospel in Principle and Practice. (2:2:0 ea.) F.S.Su. Home Study also. (G-R) L. Berrett, Cheesman, Cook, Fugal, Pearson, M. Petersen

A consideration of the basic principles of the gospel of Jesus Christ in the light of the practical needs and problems of today's youth.

232, 233. Missionary Approach to the Gospel. (2:2:0 ea.) F.S.Su. Home Study also. (G-R) Butler, Ludlow, Pearson, Ricks

Recommended for students contemplating an LDS mission. Concerned with procedures used in explaining the restored gospel of Jesus Christ to friends and investigators. (232 emphasizes the standard missionary discussions. 233 emphasizes techniques of proselyting.)

234, 235. Missionary Approach to the Gospel in French. (2:2:0 ea.) F.S. (G-R) Prerequisite: one year of French or equivalent.

Consideration of the doctrines, scriptures, and techniques of effective missionary work for the LDS Church.

236, 237. Missionary Approach to the Gospel in German. (2:2:0 ea.) F.S. (G-R) Prerequisite: one year of German or equivalent.

Consideration of the doctrines, scriptures, and techniques of effective missionary work for the LDS Church.

238, 239. Missionary Approach to the Gospel in Spanish. (2:2:0 ea.) F.S. (G-R) Prerequisite: one year of Spanish or equivalent.

Consideration of the doctrines, scriptures, and techniques of effective missionary work for the LDS Church.

240. Church History. (1-2:Arr.:Arr.) Su.

Limited to participants in the BYU Travel Study Program. The growth of the Church from the New York period to the westward migration.

241, 242. Latter-day Saint History. (2:2:0 ea.) F.S.Su. Home Study also. (G-R)
I. Barrett, Barron, L. Berrett, Hartshorn, Rich

A chronological study of Church history and doctrine—241: through the life of Joseph Smith (1844); 242: from 1844 to the present. (It is suggested that juniors and seniors take the Church History 441, 442, and 443 series.)

261. Introduction to Genealogy I. (2:2:0) F.S.Su. Home Study also. (G-R)
Bloxham, Pratt, Stevenson, Wright

An introductory course in basic genealogical concepts, doctrinal background, essential record sources, modern methods of research, numerous genealogical forms and their uses, successful correspondence, writing biographies and autobiographies, and introduction to the use of the Genealogical Society Library, and one's book of remembrance.

262. Introduction to Genealogy II. (2:2:0) F.S.Su. Home Study also. (G-R) Prerequisite: Undergrad. Relig. 261. Bloxham, Pratt, Stevenson, Wright

A survey course in methods of research, time-saving indexes, filing systems, wise use of various records, extending the personal pedigree, correspondence, systems, genealogical uses of electronic computers, compiling and publishing family histories, making the family organization click, analysis of research, and other genealogical problems. (For additional courses in genealogy, refer to the Genealogy Section of catalog.)

270. Introduction to Religious Education. (2:2:0) F.S. (G-R)

An introductory study of the philosophy, objectives, subject-matter areas and related problems associated with religious education at the secondary level.

301, 302. Introduction to the Old Testament and Its Teachings. (2:2:0 ea.) F.S.Su. Home Study also. (G-R) Done, Meservy, Rasmussen, Skousen

Course 301 is a brief introduction to the structure of the Old Testament and study of its great teachings, Genesis to I Kings 11. Course 302 considers I Kings 12 to Malachi.

324, 325. The Doctrine and Covenants. (2:2:0 ea.) F.S.Su. Home Study also. (G-R) Andrus, L. Berrett, Bowen, Butler, Cowan,
Doxey, Nyman, M. Petersen, Turner

Origin and contents of the Doctrine and Covenants. Course 324 gives a brief discussion of the history of the Doctrine and Covenants considering study of Sections 1 to 70. Course 325 considers Sections 71 through 136.

327. Introduction to the Pearl of Great Price. (2:2:0) F.S.Su. Home Study also. (G-R) W. K. Andersen, Andrus, Clark, Harris, H. D. Peterson

Origin and content of the Pearl of Great Price.

331, 332. Analysis of LDS Teachings. (2:2:0 ea.) F.S.Su. Home Study also. (G-R) W. Andersen, Bowen, Harris, Parsons

Distinctive doctrines and teachings of the gospel. (331 emphasizes the teachings of Joseph Smith the Prophet; 332 emphasizes the teachings of the living prophets and recent conference reports.)

365. Applying Gospel Principles in Scouting. (2:2:0) F.S. Home Study also. (G-R) Packer

Deals with the role of scouting in the LDS Church and how gospel principles may be applied in that program.

371. Teaching the Scriptures. (2:2:0) F.S. Prerequisite: consent of instructor.

Designed for prospective seminary teachers.

401. Israel's Prophets. (2:2:0) F.S.Su. (G-R) Recommended: Undergrad. Relig. 301 and 302. Done, Meservy, Rasmussen
The messages of the great "writing prophets" and their value in their time and ours.

411. Life and Teachings of Jesus. (2:2:0) F.S.Su. Home Study also. (G-R) R. L. Anderson, Patch, Turner
The teachings of Jesus Christ and the major events of his life.

412. Paul and the Apostolic Church. (2:2:0) F.S.Su. (G-R) R. L. Anderson, Patch, Turner
The books in the New Testament except the four Gospels with emphasis upon Paul's letters.

421, 422. History and Teachings of the Book of Mormon. (2:2:0 ea.) F.S.Su. Home Study also. (G-R) Barron, I. Barrett, Bowen, Ludlow, Nyman, Pearson, H. D. Peterson, Ricks, Turner
Selected problems and teachings of Nephite sacred scripture. (Returned missionaries and upper-division transfer students may have the option of taking Undergrad. Relig. 421, 422, History and Teachings of the Book of Mormon, in lieu of Undergrad. Relig. 121, 122.)

435. Mormonism and Modern Scientific Thought. (2:2:0) F.S.Su. (G-R) Nicholes, Nielsen
A consideration of significant theological-philosophical concepts in Mormonism as they relate to certain challenging areas of modern scientific assumption involving God, man, and the universe.

438. Your Religious Problems. (2:2:0) F.S.Su. (G-R) Riddle
Consideration of problems pertaining to the individual student.

441. LDS Church History to 1846. (2:2:0) F.S.Su. Home Study also. (G-R) Backman, Barron, I. Barrett, L. Berrett, Cowan, Hartshorn, Rich
An intensive interpretive examination of the history of the Church. the life of Joseph Smith. Readings include Volumes I and II of Roberts' "Comprehensive History of the Church."

442. LDS Church History from 1846-1860. (2:2:0) F.S.Su. Home Study also. (G-R) Backman, Barron, I. Barrett, L. Berrett, Cowan, Hartshorn, Rich
An intensive interpretive examination of the history of the Church. Pioneer and early Utah period. Readings include Volumes III and IV of Roberts' "Comprehensive History of the Church."

443. LDS Church History from 1860-Present. (2:2:0) F.S.Su. Home Study also. (G-R) Backman, Barron, I. Barrett, L. Berrett, Cowan, Hartshorn, Rich
An intensive interpretive examination of the history of the Church. Church history from 1860 to the present. Readings include Volumes V and VI of Roberts' "Comprehensive History of the Church."

451. Christian History through the 15th Century. (2:2:0) F.S.Su. (G-R) Horsley

452. Christian History after the 15th Century. (2:2:0) F.S.Su. (G-R) Horsley

453. World Religions. (2:2:0) F.S.Su. (G-R) Horsley, Palmer

454. American Religions and the Rise of Mormonism. (2:2:0) F.S.Su. Home Study also. (G-R) Backman

460. Priesthood, Church Government, and Welfare. (2:2:0) F.S.Su. Home Study also. (G-R) W. K. Andersen, Clark
Powers, authority, and functions of the priesthood and its role in Church government are considered in addition to the major historical, economic, and spiritual aspects of the LDS Welfare Program.

Russian Studies

Professors: Clark, Mabey (coordinator, 274 M).

Associate Professor: Morrell.

Assistant Professors: Aamodt, Gubler, Tobler.

Instructors: Lysenko, Tuckett.

Committee Members: Don V. Gubler and Peter Lysenko—Russian Language, Edwin B. Morrell—Political Science, Richard D. Poll—History, Elliott Tuttle—Geography, Wayne W. Clark—Economics.

The Russian Studies Program is an interdisciplinary program which provides for two majors or a major and minor combination leading to the B.A. degree.

The program is designed to prepare students for careers and advanced study requiring a broad understanding of Russia and of the Soviet Union. Students in Russian Studies combine the depth of a major in economics, geography, history, political science, or Russian language and literature, with the breadth of integrated study concerning Soviet Russia provided by several disciplines. Majors in other than the above disciplines also may take the Russian studies major concurrently. Russian area specialists who also have a regular professional or academic skill find opportunities for employment by United States domestic and foreign government agencies, by international organizations, and by private business firms dealing with the USSR. For those students going immediately into graduate study and teaching, the breadth in Russian area study combined with a regular major will prove equally advantageous. Students may enter the program only with the permission of the coordinator and should register each semester thereafter under his direction.

Requirements for a Major:

A total of 28 hours (in addition to a regular major and Russian language 101, 102, and 201) divided as follows:

1. Core courses on Russian and Soviet economics, geography, history, government and politics, foreign relations, and literature (starred in list below) from each of four fields outside the regular major .... 14 hours
2. Other courses dealing more generally with Russia and the Soviet Union (any in the list below) outside the regular major including for non-language majors Russian language 301 and 321 .... 14 hours

Requirements for a Minor:

A total of 14 hours (in addition to a regular major and Russian language 101, 102, and 201) divided as follows:

1. Core courses on Russian and Soviet economics, geography, history, government and politics, foreign policy, and literature (starred in list below) from two fields outside the regular major .... 8 hours
2. Other courses dealing more generally with Russia and the Soviet Union (any in the list below) outside the regular major .... 6 hours

Economics		**Hours**
111	Introduction to Economic Principles and Problems	3
112	Introduction to Economic Principles and Problems	3

241	Comparative Economic Systems	3
301	Income Analysis	3
302	Price Analysis	3
430	Economic Development	3
*441	Advanced Comparative Economic Systems	3
590	Advanced Economic Problems	1-2

Geography

101	Introduction to Geography	3
or		
120	Geography and World Affairs	3
441	Political Geography	3
491	Readings in Regional Geography	1
*562	USSR and Its Satellites	2

History

111	World Civilization II	3
*330	Tsarist Russia	3
*331	The USSR and Eastern Europe	3
498	Directed Readings	1-2

Political Science

150	Foreign Governments and Politics	3
170	Introduction to International Relations	3
*350	Political Systems of the USSR and Eastern Europe	3
451	Communist Governments and Politics	3
498A,B,C	Directed Readings in Political Science (Honors)	1-2
*572	USSR Foreign Relations	2

Russian Language and Literature

101, 102	First-Year Russian Grammar and Composition	5 ea.
201	Intermediate Russian Reading and Conversation	5
301	Introduction to Russian Literature	3
321	Third-Year Grammar and Composition	3
*441, 442	Survey of Russian Literature to 1900	3 ea.

Sociology

Professors:	Ballif, Bradford, Christiansen (chairman, 1216-A SFLC), Dyer, Larsen, Peterson, Smith, Symons.
Associate Professors:	Craig, Duke, Fitzgerald, Payne.
Assistant Professors:	Seggar, Woodworth.
Instructors:	Adams, Blake, Houseworth, Johnson, Nalder, Nelson, Tanner.

Sociology is the scientific study of human relationships and interaction. Attention is given to the social systems which are thus developed and to the norms, roles, statuses, institutions, knowledge, values, etc., which are related thereto, including the relationship of these factors to conditions of social stability and instability. Specific application of sociological concepts is made to major social units such as familial, peer, religious, educational, occupational, political, medical, racial, and ethnic groups.

Two majors are offered in the Department of Sociology leading to the Bachelor of Science degree: sociology, and the undergraduate major in social work.

A sociology major is necessary for students planning to obtain advanced degrees and become professional sociologists—experts who will do teaching, research, consulting, etc., in the field. Sociology also provides basic preprofessional preparation for positions in

Teaching
General counseling
Law
Research
Recreation
Professional scouting
Red Cross work
Community planning
Social welfare
Industrial relations
Governmental service
Crime control
Medicine
Dentistry

By combining a sociology major with a teaching certificate (see Teacher Education Department), and/or undergraduate social work, one can gain a two- or three-way employment potential. Courses listed as sociol.-psych. (social-psychology) may be used for credit either in sociology or psychology, but not in both.

The undergraduate major in social work provides background training leading to such positions as caseworker, vocational counselor, child welfare worker, juvenile probation officer, adult probation officer, juvenile group counselor, etc. Most of these positions are available through county and state welfare departments and require some in-service training. In addition, the undergraduate major in social work prepares students to enter a graduate school of social work.

Departmental Core Curriculum

All students majoring in sociology or completing an undergraduate major in social work will complete 17 hours of credit in the departmental core curriculum and a minimum of 16 additional hours of credit in sociology. For the undergraduate major in social work, the additional selections should be the recommended sociology courses which are specifically oriented to social work. The following are the core courses in sociology:

		Hours
Sociol. 111.	Introductory Sociology	3
Sociol. 112.	Modern Social Problems	3
Sociol. 220.	Applied Social Statistics	3
or 320.	Social Statistics (3 hours)	

Sociol. 397.	Methods of Research in Sociology	3
Sociol. 403.	Marriage and the Family in American Society	2
Sociol. 405.	Social Systems Analysis	3
		17

Requirements for a Major in Sociology

In addition to the core courses, sociology majors are required to take Sociol. 350 and 404, and to present total sociology credit from other sociology elective classes for a minimum of 33 hours. A maximum of 6 of the 33 hours may be chosen from a selected list of courses in other departments if, prior to registering for the courses, written consent is given by the student's departmental adviser. Consent may be given on the grounds that these classes are in related fields and are necessary to the student's occupational goals but are not offered by the Sociology Department.

Students majoring in sociology who wish to certify as secondary school teachers need to take Sociology 512 in addition to the other classes required of majors. An outline of the requirements for secondary school certification is given in the Teacher Education Section of this catalog.

Requirements for a Minor in Sociology

A minor in sociology consists of a minimum of 15 hours of sociology. It is recommended that students minoring in sociology take Sociol. 111 with the remaining 12 hours to be determined by the student's major department, with suggestions being given by the Sociology Department according to the needs and interests of the student.

Students minoring in sociology who wish to certify for a secondary school teaching position are required to take Sociol. 111, 112, 405, 512 and the remaining hours selected from other sociology classes. The minimum number of sociology hours required for certification is 20.

Suggested Program for a Sociology Major

Freshman Year

	F	S
For. and dev. assy.	1	1
Undergrad. Relig. 121, 122	2	2
Engl. 111, 112	3	3
P.E.	½	½
Phys. sci.	3	3
Hum. & fine arts	3	3
*Sociol. 111	3	
*Sociol. 112		3
Minor	2	3
Total Hours	17½	18½

Sophomore Year

	F	S
Undergrad. relig.	2	2
P.E.	½	½
Biol. sci.	3	3
Hist. 170		3
Health 130	2	
*Sociol. 320** (or 220)	3	3
Electives (sociol.)	6	
Electives (minor)		2
***Electives (other)		3
Total Hours	16½	16½

Junior Year

	F	S
Undergrad. relig.	2	2
*Sociol. 397	3	
*Sociol. 403		2
*Sociol. 350	3	
Electives (minor)	3	3
Electives (sociol.)	3	4
***Electives (other)	2	5
Total Hours	16	16

Senior Year

	F	S
Undergrad. relig.	2	2
*Sociol. 404	3	
*Sociol. 405		3
***Electives (other)	6	6
Electives (sociol.)	3	3
Electives (minor)	2	2
Total Hours	16	16

*These courses are required of all sociology majors.

**Math. 105 or its equivalent should be taken as a prerequisite to Sociology 320. Completion of these two courses will fill the math., statistics, logic requirement. If Sociology 220 is taken, no prerequisite is required, but then the math., statistics, logic requirement is not filled.

***Forum and devotional assemblies are strongly recommended as electives.

Requirements for an Undergraduate Major in Social Work

In addition to the core courses, undergraduate majors in social work are required to take Sociol. 360, 362, 460, 543 and to present total sociology credit from other sociology elective classes for a minimum of 33 hours. Recommended sociology electives for undergraduate majors in social work include: Sociol. 316, 357, 364, 380, 383, 389, 410, 480, 542, and 551. In addition to the 33 hours in sociology required for an undergraduate major in social work, students are encouraged to broaden their preprofessional social work training by taking such elective classes as the following: Anthrop. 105, CDFR 210 and 461, Geog. 552, Econ. 101, Hous. Home Mgt. 351, Pol. Sci. 110, Psych. 111, 320, 321, 445, and 540.

Requirements for an Undergraduate Minor in Social Work

It is recommended that students wishing to complete an undergraduate minor in social work take a minimum of 15 semester hours in sociology including the following: Sociol. 111 or 112, 360, 362, 389 and 543.

Suggested Program for an Undergraduate Major in Social Work

Freshman Year

	F	S
Forum and dev. assy.	1	1
Undergrad. Relig. 121, 122	2	2
Engl. 111, 112	3	3
P.E.	½	½
Phys. sci.	3	3
*Sociol. 111	3	
*Sociol. 112		3
Hist. 121	3	
Pol. Sci. 110		3
Minor		2
Total Hours	15½	17½

Sophomore Year

	F	S
Undergrad. relig.	2	2
P.E.	½	½
Biol. sci.	3	3
Hum.	3	3
Health 130	2	
*Sociol. 220 (or 320)	3	
**Sociol. 360		3
***MSLS or lang.	3-4	3-4
Minor		2
Total Hours	16½-17½	16½-17½

Recommended Sociology Electives:
316, 357, 364, 380, 383, 389, 410, 480, 542, and 551.

Junior Year

	F	S
Undergrad. relig.	2	2
*Sociol. 397		3
**Sociol. 362	3	
*Sociol. 403	2	
Electives (sociol.)	4	3
Minor	3	5
****Electives (other)	3	4
Total Hours	17	17

Senior Year

	F	S
Undergrad. relig.	2	2
*Sociol. 405	3	
**Sociol. 460	2	2
Electives (sociol.)	3	3
Minor	3	3
**Sociol. 543		2
****Electives (other)	3	4
Total Hours	16	16

Recommended Electives in Related Fields:
Anthropology 105
CDFR 210, 461
Economics 101
Geography 552
Hous. Home Mgt. 351
Political Science 110
Psychology 111, 320, 321, 445, 540

*These core courses are required for all majors.

**These additional courses are required for all undergraduate majors in social work.

***6 hours are required for MSLS (math., statistics, logic, and science requirement). Sociology 320 and its prerequisite, Math. 105, will fill the MSLS requirement. If language option is chosen, 8-12 hours are required.

****Forum and devotional assemblies are strongly recommended as electives for all four years.

Courses

111. Introductory Sociology. (3:3:0) F.S.Su. Home Study also. (G-SS m)

Foundation course designed to give groundwork for all sociological study. Presents general view of how social organization affects human behavior.

112. Modern Social Problems. (3:3:0) F.S.Su. Home Study also. (G-SS m)

Analyzes forces in society which produce such modern social problems as war, crime, divorce, suicide, race friction, etc., and focuses attention on alleviation and prevention programs.

125. Applied Sociology. (2:2:0) F.S.Su. (G-SS m) Fitzgerald

Presents applications of sociological principles and findings in such fields as teaching, business and industry, nursing, military life, and medicine.

215. Social Analysis of the Communication Process. (3:3:0) F.S.Su. (m) Prerequisite: Sociol. 111. Blake

A sociological approach to the communication process, with emphasis upon structure-function and selected social effects.

220. Applied Social Statistics. (3:3:0) F.S.Su. Home Study also. (m)

Introduces elementary statistical techniques used in sociology and social work, emphasizing descriptive techniques and interpretation of statistical data. Primarily for sociology students training for applied fields such as social work and teaching.

300, 301. People and Cultures Around the World I, II. (1-3:Arr.:Arr. ea.) **F.Su.**

Limited to participants in BYU Travel Study programs.

Analyzes the principal sociological aspects of those societies included in the BYU Travel Study tours.

316. Social Control. (3:3:0) S. (m) Larsen, Payne

Considers importance of public opinion, belief, social suggestion, ceremony, personal ideals, etc., as means of controlling behavior.

317. Introduction to the Sociology of Religion. (3:3:0) F. (m) Prerequisite: Sociol. 111. Seggar

An introduction to the sociology of religion focusing on factors influencing the origination, growth, and organizational development of religious systems.

320. Social Statistics. (3:3:0) F.S.Su. (m) Prerequisite: Math. 105 or its equivalent (thus making it possible for math., stat., logic, science requirement to be filled).

Covers basic statistical procedures used in sociological research, emphasizing inductive techniques. Primarily for students planning to do graduate work in sociology.

348. Collective Behavior. (2:2:0) S. (m) Ballif, Larsen

The action of groups which operate without clearcut direction from the culture within which they are found. Such groups as lynching mobs, riots, and crowds are analyzed as well as mass behavior and communication. The causes, nature, and consequences of such behavior are considered.

350. (Sociol.-Psych.) Introduction to Social Psychology. (3:3:0) F.S.Su. Home Study also. (G-SS m) Prerequisite: Sociol. 111 or Psych. 111.

Nature of social influences; socialization; concept of norm; role and status; development of beliefs and attitudes; leadership; group processes. Applications to prejudice, persuasion, social control.

357. (Sociol.-Psych.) Group Relations and Leadership. (3:3:0) F.S.Su. Home Study also. (m) Dyer, Hardy

Designed to help the individual participate effectively in group life and to assist leaders to become efficient in role performance.

360. Introduction to the Field of Social Work. (3:3:0) F.S.Su. (m) Prerequisites: Sociol. 111 and 112. Tanner

Covers historically and sociologically man's attempts to meet his general welfare and social services needs and then moves into a consideration of the fields, methods, etc., of modern social work and its implications for the related professions.

362. Introduction to the Social Services: Individual. (3:3:0) F.S.Su. (m) Prerequisite: Sociol. 360. Nalder

Analyzes the philosophy, principles and practices, historically and currently used, in providing social services for man on an individual (now called casework) basis.

364. Introduction to the Social Services: Group. (3:3:0) F.S.Su. (m) Prerequisites: Sociol. 360 and 362. Woodworth

Analyzes the philosophy, principles and practices, historically and currently used, in providing social services for man on a group (now called group work) basis.

380. Introductory Criminology and Penology. (3:3:0) F.S.Su. Home Study also. (m) Smith, Symons

Analyzes nature and extent of criminal behavior. Emphasizes current theory and research as they relate to the causes of crime.

383. Juvenile Delinquency. (2:2:0) F.S.Su. Home Study also (m) Prerequisite: Sociol. 111. Smith, Symons

Analyzes lawlessness of children and adolescents. Stresses causation, treatment, prevention, and outlook.

386. Organized Crime. (2:2:0) S. (m) Prerequisites: Sociol. 111, 380 or 383. Symons

Presents historical background for the development of organized crime in the United States. Considers proposals for prevention.

389. Social Aspects of Mental Health. (3:3:0) F. Home Study also. (G-SS m) Christiansen, Symons

Considers personality disorders and emotional maladjustments which originate in group life, and studies social causation, treatment, and prevention of mental ills.

397. Methods of Research in Sociology. (3:3:0) F.S.Su. Home Study also. (m) Prerequisites: Sociol. 111, 220 or the equivalent or consent of instructor.

Basic methods of research used in investigation of sociological data.

403. Marriage and the Family in American Society. (2:2:0) F.S.Su. Home Study also. (m)

Analyzes the effect that American society has upon successful marriage and family living. Problems connected with the roles of child, adolescent, wife, husband, and the aged are discussed.

404. Development of Sociological Theory. (3:3:0) F.S.Su. Prerequisite: Sociol. 111.

Analyzes the development of prominent sociological theories and the contributions of outstanding theorists.

405. Social Systems Analysis. (3:3:0) F.S.Su. (m) Prerequisite: Sociol. 111.
Analysis of generalizations derived by sociology concerning how social interactions, groups, institutions, roles, statuses, and culture affect human behavior.

410. Racial and Minority Group Relations. (2:2:0) F.Su. Home Study also. (m) Ballif, Payne
Basic processes in present-day interrelations of racial and minority groups. Analyzes prejudice, its causes, and programs for its reduction.

417. Latin-American Social Change. (3:3:0) F.S.Su. (m) Prerequisite: Sociol. 111 or 112. Craig
Analysis of contemporary Latin-American urban and rural social structure and the processes of social change in modernization.

420. Population Problems. (3:3:0) F. Home Study also. (m) Fitzgerald, Payne
The relationship of population factors to important problems encountered in education, labor, government, and other facets of modern life.

423. Rural Sociology. (2:2:0) S. (m) Prerequisite: Sociol. 111. Fitzgerald, Payne
A sociological study of the structure and processes of rural life. International comparisons are made.

424. Rural Social Development in Latin America. (3:3:0) F.S.Su. (m) Prerequisite: Sociol. 111 or 112. Craig
Study of contemporary peasant society; variables impeding and effecting social changes; analysis of private and public social change programs in rural areas.

426. The Sociology of Urban Life. (3:3:0) S. (m) Prerequisite: Sociol. 111. Fitzgerald, Smith
A sociological examination of norms, social controls, and social processes (and changing patterns in all of these) as they are seen in urban social life in both historical and contemporary perspective. Human ecology is also emphasized.

446. Sociology of Industrial Relations. (3:3:0) S. (m) Dyer, Larsen
Role that social forces play in determining industrial organization. Emphasizes labor-management relations and problems of applied industrial sociology.

449. Community Organization, Action, and Planning. (2:2:0) F. Home Study also. (m) Ballif, Fitzgerald, Larsen
Basic fundamentals of community life. Analyzes techniques and methods for organizing community resources for efficient achievement of community objectives.

460. Senior Field Experience in Social Work. (2:2:3) F.S. Prerequisites: 9 hours of sociology plus Sociol. 360 and 362 or 364 (360 not to run concurrently).
Students with preprofessional social work orientation will be expected to work with a social worker in a local welfare agency setting three hours a week. For an additional 2 hours the instructor, social worker and students will meet in seminar capacity to discuss experiences, ameliorative efforts, etc.

470. Social Change. (3:3:0) S.Su. (m) Prerequisite: Sociol. 111. Bradford, Craig, Larsen, Peterson
Analyzes the factors and processes of social change.

480. Sociology of Aging. (2:2:0) F. (m) Bradford
Analyzes societal factors as they affect aging, Discusses demographic factors, political implications, agencies serving the older citizens, and role of the community in solving problems of aging.

491. Senior Seminar. (2:2:0) F.S.Su. (m) Prerequisites: Sociol. 111; senior standing.
Analysis, formation, and integration of basic sociological concepts.

501. **Political Sociology.** (3:3:0) F. (m) Prerequisite: Sociol. 111 or consent of instructor. Duke, Seggar
An analysis of power and decision-making in social groups. Social bases of government and political behavior. Relationship of governmental institutions to other societal institutions.

512. **Sociology of Education.** (2:2:0) S. (m) Ballif, Smith
Analyzes principles of sociology of education and their implication for theory and practice of school administration, curricula, and methods of instruction.

516. **Sociology of Religion.** (2:2:0) F. Home Study also. (m) Seggar
Analyzes influences of social factors in development of various religious systems.

524. **Advanced Social Statistics.** (3:3:0) F. (m) Prerequisite: Sociol. 111.
Advanced course designed for those who intend to do research or continue in graduate work.

530. **(Sociol.-Psych.) Theory and Research in Social Psychology.** (3:3:0) S. Prerequisite: Sociol. 350 or Psych. 350. Larsen
A survey, in depth, of current theory and research in social psychology, with emphasis on understanding the individual and his interpersonal interaction.

542. **Social Movements.** (2:2:0) S. (m) Payne
Discusses social aspects of various movements from Adam Smith to John Dewey with special emphasis on social reform movements in the United States.

543. **Social Legislation.** (2:2:0) S. (m)
Basic problems and techniques of social legislation. Analyzes various systems now in operation.

551. **Sociology of Recreation.** (2:2:0) S.Su. (m) Ballif, Payne
Treats relations of recreational interests to growth, group behavior, and social maladjustments. Emphasizes basic theories of recreative activities.

552. **Personality: Culture and Society.** (3:3:0) F. (m) Prerequisite: Sociol. 111 or Psych. 111. Christiansen, Dyer, Larsen
Study of the role of culture and society in the forming and functioning of personality. Compares various peoples and cultures.

555. **(Sociol.-Psych.) Group Dynamics.** (3:3:0) F.S. (m) Prerequisite: Sociol. 350. Dyer, Larsen
Analyzes research and theories of group dynamics.

560. **The Family Institution.** (2:2:0) S. (m) Bradford, Christiansen, Fitzgerald
Emphasizes the family in several different societies and problems created by various family systems.

561. **Contemporary Sociological Research.** (2:2:0) S. (m)

570. **Class, Status, and Power.** (3:3:0) S. (m) Prerequisite: Sociol. 111. Duke, Seggar
A sociological examination of the causes and effects of stratification, the types of stratification systems, and the nature of social classes in various societies. Special problems such as social mobility, equality, and poverty are analyzed.

580. **Medical Sociology.** (3:3:0) S. (m) Prerequisite: Sociol. 111 or Psych. 111. Peterson
Analyzes the structure of medical and health organizations and the social roles of the patient, the physically disabled, and the medical practitioners.

590. Seminar in Criminal Behavior Systems. (2:2:0) F.S.Su. (m) Prerequisite: Sociol. 380. Smith, Symons

A study of the research and theory concerning criminal typologies; a diagnostic course to complement Sociology 591 which deals with contemporary corrections.

591. Seminar in Crime Causation and Treatment. (2:2:0) F.Su. (m) Prerequisites: Sociol. 111, 380. Smith, Symons

Considers the major causes of crime and analyzes prevalent theory and techniques of treatment of criminals.

595. Directed Readings. (1-3:0:2-6) F.S.Su. (m)

Readings in special areas.

596. Directed Readings. (1-3:0:2-6) F.S.Su. (m)

Readings in special areas.

597. Advanced Research Methods. (3:3:0) S. (m) Prerequisite: Sociol. 397. Peterson

Analyzes methods used in investigation of sociological data. Field projects give the student actual experience in research.

623. Demographic Analysis. (3:3:0) S. Prerequisite: Sociol. 420. Fitzgerald

The discipline of demography, with its special methods and procedures is analyzed. Major current research in the field receives careful coverage.

626. Contemporary Urban Social Structure. (3:3:0) S. Prerequisite: Sociol. 426 or consent of instructor. Fitzgerald

Research-oriented examination of social forces in contemporary urban life which influence patterns of human interaction.

630. (Sociol.-Psych.) Attitude Change. (3:3:0) F. Prerequisite: graduate standing or permission of the instructor. Blake

An examination of various theoretical approaches to the study of attitude development, change, and assessment, including a focus on both individual and mass persuasion.

660. Familial Role Structure. (3:3:0) S. Prerequisite: Sociol. 403. Bradford

Analysis of the various roles in the family, with their attendant characteristics and problems, in various societies, but particularly in the United States.

671. Problems in Latin-American Social Development. (2:2:0) F.S.Su. (m) Prerequisite: graduate standing. Craig

Examination of significant social problem areas: migration, land tenure, population, education, religion, colonization, labor organization, peasant movements, programmed change, social mobility, etc.

686. Problems in Race Relations. (2:2:0) F. Ballif

Considers significant problems of a specialized nature in the field of race relations.

690. Seminar in Contemporary Sociological Theory. (2:2:0) S.Su. Prerequisites: Sociol. 404 and 405. Bradford, Duke

An advanced course in sociological theory.

691. Seminar in Sociological Theory Building. (2:2:0) S. Prerequisites: Sociol. 404, 405, and 690. Bradford, Duke, Peterson

An advanced course in sociological theory building.

692. Seminar in Problems of Rural Society. (3:2:1) F. Prerequisite: Sociol. 423 or consent of instructor. Christiansen, Fitzgerald

Field-type training, with on-the-job contacts with county agents, etc. Findings from these contacts will be the classroom material.

693. Seminar in Sociology of the Family. (2:2:0) F.S.Su. (m) Prerequisite: Sociol. 403. Peterson

Comprehensive analysis of sociology of the family with special emphasis on current research, theoretical models, and research techniques employed.

694. Directed Research. (1-3:0:2-6) F.S.Su.

Research in special areas.

696. Seminar in Industrial Sociology. (3:3:0) S. Prerequisite: Sociol. 446. Dyer, Larsen

Designed to give added insight by careful attention to current trends in industry, labor-management developments, government, participation, etc.

697. Seminar in Survey Research. (3:3:0) S. (m) Prerequisite: Sociol. 397 or equivalent; graduate standing in sociology or allied discipline. Peterson

Analysis of survey research as a specific research technique on the behavioral sciences with emphasis on survey research designs and sampling designs.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

701. Advanced Statistical Methods. (2:2:0) S. Prerequisites: Sociol. 320, 524.

Consideration of advanced statistical techniques such as scalogram analysis, factor analysis, and latent structure analysis.

730. (Sociol.-Psych.) The Consultative Process. (3:2:2) (Offered alternate years) Prerequisite: Psych. 357.

Nature of the consultative relationship. Essential elements involved in consultation, forces operating in consultation relationship, developing effective strategy for consultation.

757. (Sociol.-Psych.) Practicum in Group Development. (3:1:4) Prerequisites: graduate standing in psychology or sociology; Sociol.-Psych. 357, 555; consent of instructor. Dyer

760. The Family. (3:3:0) F.S.Su. (m) Prerequisite: Sociol. 560. Bradford

This course analyzes the family as a basic organization in society. It concentrates on family structure in various cultures.

791. Seminar: Social Organization. (2:2:0) F. Prerequisites: Sociol. 111, 405. Dyer, Peterson

Comprehensive examination of major theories of organization with emphasis upon theory construction.

792. Seminar: Social Psychology. (2:2:0) S. Prerequisites: Sociol. 350 and consent of instructor. Larsen

Special emphasis on group processes and socialization.

796, 797. Special Research Problems. (1-3:0:2-6 ea.) F.S.Su.

799. Dissertation for Ph.D. (Arr.) F.S.Su.

Speech and Dramatic Arts

Professors:	Bateman, Clinger, Gledhill, Hansen, Low, Mitchell, Morley, Newman, Woodbury (chairman, D-581 HFAC).
Associate Professor:	Metten.
Assistant Professors:	Boren, Frost, Golightly, Henson, Jex, Keele, Moore, Peterson, Pope, Richardson, Stewart, Struthers, Weaver, Whitman.
Instructor:	Jenkins.
Special Instructors:	Arrington, Boorman, Faux, Warner.

Speech is man's fundamental mode of communication. It is the principal means through which men exchange ideas and feelings. It provides a method of inquiry and reporting, and it may be used to persuade or to provide inspiration or entertainment.

Human communication may be studied as a fine art, investigated scientifically, or analyzed as a rhetorical art. Students majoring in the Department of Speech and Dramatic Arts may eventually become teachers, directors, actors, clinicians, or members of any one of several related professions.

Public Address

Course offerings in the public-address area serve not only the specialized needs of departmental majors, but also offer a wide selection of courses to assist students in all academic areas of the University. Experiences in understanding and applying principles of effective oral communication are particularly helpful to students in prelaw, business, communications, youth leadership, and all areas of teacher education. The greater portion of public-address majors include the teaching certification requirements in their program. In addition to formal course offerings, the public-address area promotes and sponsors several competitive speech contests and activities which are open to the general student body. A detailed list of the contests can be found in the description of departments of the College of Fine Arts and Communications.

The BYU Forensic Association, under the direction of the department, offers an opportunity for all students to participate in competitive speech activities on both the intramural and intercollegiate levels. More than 160 students participate each year. Interested students in all fields of study participate in about thirty debate trips during the academic year.

Dramatic Arts

On the undergraduate level, the dramatic arts area offers a program for those wishing to go into professional work, and another for those who desire to teach on the elementary, secondary, or university level.

Those who intend to go into professional work pursue a program which gives basic theories as well as course work designed to develop performance skills and production experience.

The teacher education program is structured with sufficient breadth to give the prospective teacher background and experience in all areas in which he will be required to teach. Equal weight, however, is given to course work in theory and to the development of performance skill and production experience.

Students planning a career in higher education are directed into a program which gives equal theory and skill development, and which prepares them for graduate course work.

Students in each program are encouraged to participate in the University Theatre to develop production experience. All productions are cast from open tryouts so that all students may participate. The University Theatre produces an average of 15 faculty-directed and 65 student-directed productions per year.

Communicative Disorders

The area of communicative disorders developed out of concern for people with communication impairments. The profession offers many opportunities for service to people who are handicapped in their ability to talk, hear, or use the symbols of language. Specifically the department offers preparation in the fields of speech pathology, audiology, education of partially hearing pupils, and communication science. Students who complete these programs are prepared for employment as specialists in communicative disorders in schools, hospitals, rehabilitation centers, and other community agencies, and private practice. Professional certification in Utah and many other states, as well as in the American Speech and Hearing Association, requires the completion of a master's degree or its equivalent. Upon completion of the baccalaureate degree, there are frequent opportunities for students to obtain financial assistance to complete their graduate professional training requirements.

Graduate Study

Each major area in the department offers a challenging program for graduate study leading to the master's degree. A doctoral degree may be earned in the area of dramatic arts and public address. Students planning graduate work must apply for admission to the Graduate School at the conclusion of their senior year. Application forms may be obtained at the office of the Graduate School, D-208 ASB. The requirements for admission are in the Graduate School Catalog.

Graduation Requirements

Public-Address Area

In addition to the University graduation requirements and the course requirements listed below, majors in public address will participate in a junior evaluation of their work. This evaluation must be completed immediately before registration for the first junior semester (63 or more semester hours). Transfer students above sophomore rank must complete this evaluation before registering for a second semester at BYU.

All majors in public address are required to participate in forensic competitive activities during at least one full semester. This includes debate and at least one individual event such as oratory, extemporaneous speaking, or interpretation.

Those planning to teach in high school see "Secondary Education Certification" in Teacher Education Section.

Course Requirements for a General Major

Basic Courses 101, 111, 121, 305, 309, 371, 391, 401, 402, 403, 523.	22 hours
Courses for Specialization (10 hours elected from the following) 112, 113, 123, 301, 311, 312, 313, 325, 360, 460, 461, 524, 525, or 527. (Note: Not more than 2 hours from the 112, 113, 312, 313 series will be allowed in the 32-hour minimum.)	10 hours
Total Hours	32 hours

Suggested Sequence of Courses

	F	S	
First Year	101 (3)	121 (3)	6 hours
Second Year	111 (2) 371 (1)	305 (2) 309 (1)	6 hours

Third Year	401 (2) Electives (3)	391 (2) 402 (2)	9 hours
Fourth Year	403 (2) 523 (2)	Electives (7)	11 hours
		Total Hours	32 hours

Course Requirements for a Minor (Nonteaching)

Basic Courses 101, 111 or 305, 121	8 hours
Plus 8 hours elected from 111, 301, 305, 309, 311, 371, 401, 402, 403	8 hours
Total Hours	16 hours

Suggested Sequence of Courses

	F	S	
First Year	101 (3)		3 hours
Second Year		121 (3)	3 hours
Third Year	305 (2) 371 (1)	111 (2) 309 (1)	6 hours
Fourth Year	401 (2) or 403 (2)	402 (2) or 403 (2)	4 hours
		Total Hours	16 hours

Dramatic Arts Area

In addition to the University graduation requirements and the course requirements listed below, dramatic arts majors are required to take a junior evaluation examination. This examination must be taken immediately before registration for the first junior semester (63 or more semester hours). Transfer students above sophomore rank must take the examination before registering for a second semester.

Mask Club is sponsored by the department to provide practical experience and participation in the dramatic arts. Membership and attendance are required for many of the undergraduate classes. Three sections are held in the Nelke Experimental Theatre of the Harris Fine Arts Center on Monday at 5:10 p.m. and 7:00 p.m. and on Tuesday at 5:10 p.m.

Those planning to teach in high school see "Secondary Education Certification" in Teacher Education Section.

Course Requirements for a General Major

Students wishing to graduate with the general major or minor in dramatic arts must complete the following course work:

Major Requirements	27 hours
Basic Courses 101, 115, 121, 123, 126, 319, 320, 391, 460, 461, 564, 565.	
Specialization Courses (7 hours from the following) 321, 325, 360, 362, 401, 403, 423, 560, 572, 573, 577, 578.	7 hours
Total Hours	34 hours

Suggested Sequence of Courses

	F	S	
First Year	121 (3) 126 (1)	101 (3) 123 (3)	10 hours
Second Year	115 (2) 319 (2)	320 (2)	6 hours
Third Year	564 (3) Spec. (2)	565 (3) 391 (2)	10 hours

Fourth Year	460 (2) Spec. (3)	461 (1) Spec. (2)	8 hours

Total Hours .... 34 hours

Course Requirements for a Minor (Nonteaching)

Minor Requirements .... 20 hours

Basic Courses
101 or 102, 123, 126, 319, 325 or 527, 391, 460, 461,
plus electives to total 20 hours.

Suggested Sequence of Courses

	F		S		
First Year	101 (3) 102 (2)	or	Elec. (2) 126 (1)		6 hours
Second Year	123 (3)		325 (2) 527 (2)	or	5 hours
Third Year	319 (2)		Elec. (2) 391 (2)		6 hours
Fourth Year	460 (2)		461 (1)		3 hours

Total Hours .... 20 hours

Communicative Disorders Area

I. Courses leading to the bachelor's degree with a major in communicative disorders.
Speech and Dramatic Arts 230, 231, 232, 340, 351, 352, 430, 431, 440, 441, 483 series, and 485 .... 36 hours
(Majors take Speech and Dramatic Arts 102 and 121 for humanities general education credit.)

II. Professional Graduate Training.

The bachelor's degree does not qualify a student for full-time professional employment. Additional course work is necessary to complete professional training and be eligible for certification in communicative disorders. These additional courses are discussed following the descriptions of professional certifications given below.

A. Utah State Department of Public Instruction Professional Certificate for Public School Speech and Hearing Correctionists is obtained by taking courses leading to the master's degree or its equivalent with an undergraduate minor in teacher education. Completion of the baccalaureate major in communicative disorders and a teacher education minor qualifies the student for a nonrenewable certificate for public school speech and hearing correctionists and for traineeships in communicative disorders.

B. Utah State Department of Public Instruction Professional Certificate for Teachers of Special Education Classes for Partially Hearing Pupils is obtained by taking courses leading to the master's degree or its equivalent along with appropriate professional education courses.

C. Utah State Department of Public Instruction Professional Certificate for Public School Audiologists is obtained by taking courses leading to the master's degree or its equivalent with an elementary or secondary certificate, or a core of professional education courses.

D. The American Speech and Hearing Association Certificate of Clinical Competence in Speech Pathology may be obtained through the graduate professional training program concurrently with the public school speech correctionist certificate.

E. The American Speech and Hearing Association Certificate of Clinical Competence in Audiology may be obtained through the graduate professional training program concurrently with the public school audiologist certificate and/or the teaching certificate for hard-of-hearing classes.

III. Minor Fields of Study.

The recommended minor for communicative disorders majors, on the undergraduate level, is teacher education. Other minors are acceptable. Recommended minors for communicative disorders on the graduate level are counseling and guidance, educational psychology, educational administration, psychology, or special education. Other minors are acceptable. Electing a minor at the graduate level is identified as Option I in the Graduate School Catalog. Option II is also described therein.

IV. Sequence of Courses in Communicative Disorders.

Students beginning their professional courses in communicative disorders in their sophomore year may expect to enroll for field work in the public schools during their senior year. Those who begin later may have to defer this school practicum until the fifth year. Those entering the communicative disorders field after the freshman year should consult the coordinator of the Communicative Disorders Area for approved variations of the following sequence.

First Year

	F	S
Undergrad. relig.	2	2
P.E.	½	½
Health		2
Zool. 105	3	
Physics 100		3
Psych. 111	3	
Speech & Dram. Arts 102	2	
Speech & Dram. Arts 121		3
Engl. composition	3	3
Science electives	3	3
Total Hours	16½	16½

Second Year

	F	S
Undergrad. relig.	2	2
P.E.	½	½
Physics 167		3
CDFR 210		3
Hist. 170	3	
Zool. 261, 262	5	
Speech & Dram. Arts 230	2	
Speech & Dram. Arts 340		4
Speech & Dram. Arts 483A		1
Speech & Dram. Arts 231	2	
Electives	2	3
Total Hours	16½	16½

Third Year

	F	S
Undergrad. relig.	2	2
Speech & Dram. Arts 232	2	
Speech & Dram. Arts 351	4	
Speech & Dram. Arts 483C	1	
Speech & Dram. Arts 440	3	
Speech & Dram. Arts 483B	1	
Speech & Dram. Arts 352		3
Speech & Dram. Arts 483D		1
Tchr. Ed. 301A	2	
Tchr. Ed. 360		2
Tchr. Ed. 402		2
Tchr. Ed. 420		4
Electives	1	2
Total Hours	16	16

Fourth Year

	F	S
Undergrad. relig.	2	2
Speech & Dram. Arts 430		2
Speech & Dram. Arts 431		2
Speech & Dram. Arts 441	3	
*Speech & Dram. Arts 483E		1
Speech & Dram. Arts 485	4	
Tchr. Ed. 449	5	
Electives		7
Total Hours	14	14

*483E must be taken if the student has not completed a total of 200 clock hours of supervised clinical practice in the communicative disorders clinic on campus.

Graduate Professional Training (Fifth Year)

In order to complete their professional training, it is necessary that students complete most 500- and 600-level courses in the area of their specialty; namely, (1) speech pathology, (2) audiology, or (3) teaching of partially hearing pupils. Another integral part of the graduate student's program is the internship experience in one or more field agencies.

Students must consult the Graduate School Catalog to determine requirements for admission to and graduation from the Graduate School of Brigham Young University. After completing requirements for the bachelor's degree, the student may no longer enroll in the College of Fine Arts and Communications, but **must** apply for admission to the Graduate School. The necessary application materials are obtainable from the office of the Graduate School, D-208 ASB.

Public School Certification

For those seeking certification for work in the public schools, a minor in teacher education is required. Those seeking certification as teachers of partially hearing pupils or as public school audiologists should contact the Communicative Disorders Office for further information.

Qualifying Procedures

After each student has completed nine semester hours of professional course work, a staff review is conducted to assess the student's ability to pursue professional training in the area of communicative disorders. If the faculty recommends that a student not continue professional training, it may be possible for him to obtain a bachelor's degree providing he meets the University requirements for graduation. However, the student will not be permitted to complete the clinical practicum courses that would qualify him for professional employment in the field.

A student who is approved to pursue professional preparation may elect one of the following courses of action:

1. He may remain in school until he has earned the master's degree and is eligible for full professional employment. He will thus have completed all academic, practicum, and internship requirements that qualify him for a full-time position.
2. He may, at the conclusion of his baccalaureate work, pursue on-the-job training in one of the cooperating agencies. He would retain student status, continuing in school part time and working part time under professional supervision until he is fully qualified. This program takes longer, but integrates valuable professional experience with academic study and often enriches the meaningfulness of classroom instruction.

Speech and Dramatic Arts Education

Graduation Requirements for Prospective High School Teachers

Secondary Education Certification

Those students wishing to major or minor in speech and dramatic arts and obtain a secondary teaching certificate must complete the following courses for a major or minor:

Major Requirements 101, 111, 115, 121, 123, 126, 305, 319, 320, 325, 371, *391, 401, 460, 461, 524, 527.	34 hours
Minor Requirements 101 or 102, 111 or 305, 121, 319, 320, 325 or 527, 371, *391, 460, 461.	19 or 20 hours

*Speech & Dram. Arts 391 is required of all majors and minors and is taught Spring Semester only.

Elementary Education—Subject-Matter Minor

Those students majoring in elementary education desiring work in dramatic arts may choose speech and dramatic arts or language arts as a subject-matter minor. The following courses must be completed:

Speech & Dram. Arts .... 15 hours
101, 230, 305 or 231, 360, 527, 572, 573.

Language Arts .... 15 hours
Speech & Dram. Arts 230, 360, 527, and nine hours from the following: English 215, 218, 221, 225, 325, 426.

Courses

58. Speech for Foreign Students. (0:0:4) F.S.Su.
Tutorial and small group work to assist foreign students in learning to speak General American.

60. Remedial Speech. (0:0:4) F.S.Su.
Tutorial and small group work to assist college students who have disorders of communication such as articulation difficulties or stuttering. A noncredit, nonfee service course.

101. Fundamentals of Speech. (3:3:1) F.S.
Beginning course to aid self-improvement in speech as a mode of communication. Provides opportunity to practice for greater effectiveness in personal use of the various speech skills. Recommended for speech majors, prospective teachers, and students who desire improvement in their everyday speech activities.

102. Introduction to Public Speaking. (2:2:1) F.S.Su. (G-HA m)
Practical service course designed to improve speech efficiency, self-confidence, and skill in organization and delivery of all types of speeches encountered in business, professional, social, and religious activities.

111. Introduction to Argument and Debate. (2:2:0) F.S. (Su. even years) (m)
Boren, Richardson, Keele

Principles of argumentation and practice in debate.

112, 113. Debate Technique. (1:1:1 ea.) F.S. Boren, Keele, Richardson
Open to members of the forensic squad who obtain approval of the Speech and Dramatic Arts Department and debate council. To obtain credit in debating, students must register for this course with at least two hours of instruction per week.

115. Introduction to the Theatre. (2:2:1) F.S. (G-HA) Home Study also.
Metten

Introduces the student to the fundamental theories of the theatre arts, develops a discriminating appreciation of theatre production, and provides a basic background for the area of theatre. Attendance at Mask Club required.

121. Voice, Diction, and Interpretation. (3:3:1) F.S.Su. (G-HA m)
Designed to give the student an introduction to the basic theories of diction and interpretation and to develop skill in vocal communication and interpretation. Attendance at Mask Club required.

123. Fundamentals of Acting. (3:3:2) F.S.
An introduction to the Stanislavski theory of acting which makes practical application of theory in solo and ensemble scenes in the major areas of dramatic literature. Attendance at Mask Club required.

126. Makeup. (1:1:2) F.S.Su. (m) Warner
An introduction to the theories of makeup through changing the appearance of the actor to correspond with an interpretation of characters. Attendance at Mask Club required.

127A,B. Collegium Dramaticum. (1:1:2 ea.) F.S. Staff
Reading of dramatic literature and study of performance practices.

230. Introduction to the Disorders of Communication. (2:2:1) F.S.Su. Home Study also. Jex
A survey of communication disorders and study of the need, nature, and development of programs to correct speech, hearing, and language disabilities.

231. Normal Development of Human Communication. (2:2:1) F.S.Su. Low
Influence of physiological maturation and learning on normal development of human communication.

232. Phonetics. (2:2:0) F.S.Su. Newman
The course introduces the student to phonetic modes of thought and to phonetic symbols. It uses phonetic nomenclature in describing the principal varieties of the English language in America.

301. The Art of Public Speaking. (2:2:0) F.S. (G-HA) Prerequisite: Speech and Dram. Arts 101 or 102, or junior standing. Frost, Jenkins, Peterson
A course emphasizing understanding of the nature of oral discourse, as well as providing practice in selection of materials, sound reasoning, audience analysis, oral style, and delivery. Primarily for students not majoring in speech and drama.

304p. Public Speaking. (1:1:0) F.S.Su.
Individual instruction. Special fee.

305. Discussion and Conference Leadership. (2:2:1) F.S. (Su. odd years) Boren, Keele, Peterson
Concerned with basic democratic procedure for cooperative thinking. Offers experience in business and industrial conference leadership. For those who serve on committees or boards; conduct classroom sessions; work in schools or offices; and for all who are preparing to participate in or lead informal discussion in small groups.

307. Introduction to Reasoned Discourse. (2:2:0) F.S. Richardson
Introductory course designed to give background in classical and contemporary logic, argumentation, and persuasion in oral and written discourse.

308. Reasoned Discourse Techniques Laboratory. (1:0:2) F.S. Lab. for reasoned discourse—Speech and Dram. Arts 307. Richardson

309. Parliamentary Procedure. (1:1:2) S. Bateman, Boren
Study of the principles of parliamentary procedure and their application in a democratic society.

311. Advanced Debate. (2:2:0) F.S. Boren, Richardson
Study and application of logic and reasoned discourses applicable to argumentation in debate.

312, 313. Debate Techniques. (1:1:1 ea.) F.S. Keele, Richardson
Open to members of the forensics squad who obtain approval of the Speech and Dramatic Arts Department and the debate council. To obtain credit in debating, students must register for this course with at least two hours of instruction per week.

319, 320. Stagecraft. (2:2:3 ea.) F.S.Su. (m) Henson, Pope, Struthers
Instruction in the basic theories and practice of construction, painting, assembly, shifting, and lighting of stage scenery and properties. Attendance at Mask Club required.

321. Stagecraft Production. (1-3:0:3-9) F.S.Su. Henson, Struthers
Designed to give advanced experience in the area of stagecraft and technical theatre production. Attendance at Mask Club required.

325. Advanced Interpretation. (2:1:2) F.S.Su (m) Gledhill, Metten, Mitchell, Pope

Advanced techniques of oral interpretation. Emphasis given to the development of performance skill in dramatic reading, humorous reading, and pantomime.

327A,B. Collegium Dramaticum. (1:1:1 ea.) F.S. Staff

Reading of dramatic literature and study of performance practices.

340. Speech Pathology. (4:4:1) F.S. (Su. odd years) Prerequisite: Speech and Dram. Arts 430. Recommended: Zool. 261, 262. Newman

A study of habilitation and rehabilitation approaches to the functional disorders of speech, voice, and language. Must be accompanied by Speech and Dram. Arts 483A or consent of instructor.

351. Audiology. (4:4:1) F.S. (Su. even years) Home Study also. Prerequisite: Speech and Dram. Arts 230. Morley

Skill in administering pure tone, speech, and special audiometric tests is developed. Training in the interpretation of the audiograms is given. An introduction to the nature and use of hearing aids is made. Must be accompanied by Speech and Dram. Arts 483C.

352. Oral Communication of the Hearing Impaired. (3:3:1) F.S. (Su. odd years) Prerequisite or concurrent: Speech and Dram. Arts 351. Moore, Weaver

Rationale and methods for teaching lipreading to acoustically handicapped children or adults with emphasis on correlation of lipreading with speech, language, and auditory training. Must be accompanied by Speech and Dram. Arts 483D.

360. Creative Dramatics in the Schools. (2:2:0) F. Whitman

A course designed to give the student an increased ability to lead children in creative activities and to help the child develop his creative powers, imagination, and communicative skills.

362. Theatrical Costume Design. (2:2:3) S. Warner

Principles and aesthetics of theatrical costume design and construction.

371. Speech Criticism. (1:1:0) F.S. Bateman, Keele, Peterson

Study and practice designed to acquaint students with criteria and methods of judging speech contests in oratory, extemporaneous speaking, debate, legislative forum, and other speech activities.

377. Secondary Teaching Procedures. (3:3:1) F.S. Prerequisite: Tchr. Ed. 301.

Lectures, demonstrations, observations. Frost, Golightly

391. Junior Seminar. (2:2:1) S. (m) Hansen

A survey, review, and evaluation of the programs in the areas of theatre, secondary education, and speech for all majors and minors.

401. Advanced Speech Composition. (2:2:0) F.S.Su (m) Prerequisite: Speech and Dram. Arts 101 or 102. Bateman, Frost

Advanced study and practice in techniques of speech writing, analysis, and presentation (required for secondary speech teachers).

402. Advanced Argumentation. (2:2:0) S. Prerequisite: Speech and Dram. Arts 111 or 307. Boren, Keele

Analysis of classic debates and practice in argumentative writing and speaking.

403. Persuasive Speaking. (2:2:0) F.S. Prerequisite: Speech and Dram. Arts 101 or 102. Peterson

Consideration of the psychology, principles, and techniques of persuasive speaking. Practice in the applications of these factors in oral communication.

412. Religious Drama. (2:2:0) S.Su. Home Study also. Hansen

To give the student an appreciation of past dramatic achievements in the LDS Church and to help the student shape standards and a philosophy of theatre which is in harmony with the principles of the gospel.

423. Advanced Acting. (3:3:1) F.S. Hansen

Advanced study and practice in the theory of characterization in solo and ensemble scenes.

430. Scientific Foundations of Human Communication. (2:2:1) F.S. (Su. odd years) Prerequisite: Physics 167. Morley

An investigation into the basic process underlying oral communication through experiment and instrumentation.

431. Anatomy and Physiology of Human Communication. (2:2:0) F. (Su. even years) Prerequisites: Zool. 105, 261, 262. Newman

Emphasis is given to the study of the anatomy and physiology related to the processes of communication including hearing, symbolization, respiration, phonation, and articulation.

440. Neurological Communication Disorders. (3:3:1) F.S. (Su. even years) Prerequisites: Speech and Dram. Arts 231, 340. Low

Nature, causes, and treatment of communication disorders associated with brain dysfunction. Includes disorders of perception, conceptualization, and encoding problems associated with learning disability, auditory dysfunction, aphasia, cerebral palsy, and mental retardation. Must be accompanied by Speech and Dram. Arts 483B.

441. Diagnosis of Communication Disorders. (3:3:1) F.S.Su. Prerequisites: Speech and Dram. Arts 340 or 351. Jones

Principles and procedures of evaluation of speech, language, and hearing disorders of children and adults with emphasis on implications for treatment.

450. Language for the Partially Hearing. (4:4:1) S. (Su. even years) Prerequisite: Speech and Dram. Arts 352. Moore

In-depth study of the objectives, principles, and techniques of teaching language to the hearing impaired. Some planned observation is required.

460. Theories of Directing a Play. (2:2:0) F.S.Su. (m) Prerequisites: Speech and Dram. Arts 115, 121, 123, 126, 319, 320, or equivalent. Metten, Woodbury

Designed to prepare the student for directing assignments in educational, community, professional or Church theatre through the study and application of the basic theories and techniques of directing. Attendance at Mask Club required.

461. Directing the One-Act Play. (1:0:3) F.S.Su. (m) Prerequisite: Speech and Dram. Arts 460 or equivalent. Metten, Woodbury

The student will apply the theories and techniques of directing in the production of a one-act play which will be presented in Mask Club. Attendance at Mask Club required.

479. Secondary Student Teaching. (8:1:20-80) F.S. Prerequisites: Speech and Dram. Arts 377 and completion of two-thirds of courses required for teaching major and minor or composite major. Frost, Golightly

For course description and fees, see Tchr. Ed. 479.

483A,B,C,D,E. Clinical Methods in Communication Disorders. (1:1:4 ea.) F.S.Su. Prerequisite: Speech and Dram. Arts 230.

In these courses students gain practical experience in working with persons having the various communication disorders. Minimum of 200 clock hours required.

485A,B,C. Communication Disorders Practicum in the Public Schools. (1:1:4 ea.) F.S. Prerequisite: minimum of 150 clock hours of supervised clinic practicum in Speech and Dram. Arts 483. Required of all communicative disorders majors.

Supervised clinical experience in the public school in the areas of speech pathology, audiology, and remedial instruction of partially hearing pupils.

521. History of Speech Education. (2:2:0) S. Frost

Theories, practices, and techniques in the teaching of speech from the Greco-Roman period through the elocutionary period.

523. Rhetorical Theory. (2:2:0) F.Su. (m) Boren, Keele, Peterson

A study of rhetorical theory and criticism of great speaking.

524. High School Forensics and Programming. (2:2:2) F.S.Su. Keele, Richardson

Study and practice in conducting competitive speaking events.

525. Debate Coaching. (1-2:1-2:0) F.S.Su. Richardson

Designed for prospective debate coaches. Covers debate techniques and how they are taught.

527. Storytelling. (2:2:0) F.S.Su. (m) Clinger, Frost

Art of storytelling. Especially valuable to teachers and youth leaders.

532. Dynamics of Human Communication. (2:2:0) F. (Su. even years) Jex

A study of the dynamics of intra- and interpersonal communication. The human factors of personality, learning, motivation, cognition, etc., are considered from the perspective of human communication.

543. Stuttering. (2:2:1) S. (Su. odd years.) Newman

Evaluation and treatment of stuttering are studied. Its development and current theories of etiology are also reviewed.

544. Voice Disorders. (2:2:1) S. (Su. even years) Prerequisites: Speech and Dram. Arts 430, 431. Low

Emphasis is placed upon the organic voice disorders. Etiological factors are identified. Diagnosis and treatment procedures are studied and practical demonstrations are given.

546. Communication Disorders of the Cerebral Palsied. (2:2:1) F. (Su. odd years) Prerequisite: Speech and Dram. Arts 431. Jex

Study of the incidence, etiology, appraisal, and procedures for speech and hearing therapy of the cerebral palsied.

552. Hearing Aids and Instrumentation. (2:2:1) F. (Su. even years) Prerequisite: Speech and Dram. Arts 350. Moore, Weaver

Designed to acquaint students in speech, hearing, and related fields with basic designs, operation, selection, and use of hearing aids of all types for individuals with impaired hearing.

560. Theatre Workshop. (2-4:2-4:2) F.S.Su. May be repeated.

Integration in production of theatre's individual arts: literature, directing, acting, and stagecraft.

564. Theatre History I. (3:3:0) F. (Su. odd years) Hansen

The history of the theatre: primitive, Egyptian, Greek, Roman, medieval, and Elizabethan periods.

565. Theatre History II. (3:3:0) S. (Su. even years) Metten, Woodbury

The history of the Western and Oriental theatres: Renaissance to the present.

□**Graduate Education 572. Educational Evaluation of Communication Disabilities.** (2:2:4) Arr.

572, 573. Children's Theatre. (2:2:1 ea.) F.S. Mitchell, Whitman
Theory and technique of creating theatre for children.

577, 578. Playwriting. (1-2:1-2:0 ea.) F.S. May be repeated. Hansen, Whitman
Theories and techniques of conceiving and expressing experience as dramatic literature.

590. Selected Reading and Projects in Public Address. (1-2:0:0) F.S.Su.
Opportunity for expression of independent research and experimental work in special reading and public-address projects over and beyond or outside of usual thesis work.

601. Psychology of Public Address. (2:2:0) S. (Su. odd years) Prerequisites: Speech and Dram. Arts 101, 401, or 403. Boren, Peterson
Advanced study of the psychological elements connected with audience thinking and style of speaking and composition commensurate with persuasion.

621. Ancient Rhetoric and Oratory. (3:3:0) F. (Su. odd years) Boren, Peterson
History and development of rhetorical principles in the classical world, with reference to the works of Socrates, Plato, Aristotle, Cicero, Quintilian, and others. Analysis of selected speeches from the periods.

622. British Public Address. (3:3:0) S. (Su. even years) Boren, Peterson
Historical and critical study of principal speakers and speeches and of their relationships to British political and social life.

623. American Public Address. (3:3:0) F. (Su. even years) Bateman
Historical and critical study of significant speakers and speeches and of their relationship to American political, social, and intellectual life—from Colonial times to the mid-twentieth century.

624. Contemporary Public Address. (3:3:0) S. (Su. odd years) Bateman, Peterson
Historical and critical study of significant speakers and speeches in post-World War II society. Special attention to contemporary modes of communication and trends in rhetorical analysis.

630. Methods and Problems of Research in Communication Disorders. (2:2:0) F. (Su. even years) Low, Newman
A practical study of methods of scientific inquiry as applied to the disorders of communication. It is imperative that students take this course early in their graduate program to prepare them for their thesis projects.

631. Seminar in the Generation and Perception of Acoustic Stimuli. (2:2:0) S. (Su. even years) Prerequisites: Speech and Dram. Arts 430, 431. Morley, Weaver
An advanced study made of the acoustics of speech sounds and their perception by the ear and mind of the listener. Current research in experimental phonetics reviewed.

644A,B,C,D. Special Projects in Speech Pathology. (1:1:0 ea.) F.S.Su.
Individual study in depth in the clinical or applied areas. The student must obtain permission from the instructor under whom he wishes to study.

645A,B,C. Special Studies in Speech Pathology. (1:1:0 ea.) F.S.Su.
Individual study in depth in the basic sciences and foundations areas. The student must obtain permission from the instructor under whom he wishes to study.

646. Oro-Facial Communication Disorders. (2:2:1) F. (Su. odd years) Prerequisites: Speech and Dram. Arts 430, 431. Morley
Study of communication disorders associated with anomalies of palate, teeth, tongue, maxilla, mandible.

647. Communication Disorders of the Mentally Retarded. (2:2:1) S. (Su. odd years) Prerequisite: Speech and Dram. Arts 431. Low

Advanced studies of the communication disorders of the mentally retarded. Principles and procedures of communication habilitation. Designed for speech and hearing and special education majors and other school specialists.

648. Aphasia. (2:2:1) S. (Su. odd years) Prerequisite: Speech and Dram. Arts 431. Morley

Nature, etiology, diagnosis, and therapy associated with the speech of child and adult aphasics (brain damaged) will be studied; also linguistic, behavioral, and intellectual changes.

650. Clinical Audiology. (2:2:2) F. (Su. odd years) Prerequisite: Speech and Dram. Arts 351. Weaver

The theoretical bases and development of skill in the techniques of administering new and advanced audiometric procedures in the assessment of impaired hearing.

651. Community and Industrial Audiology. (2:2:1) S. (Su. even years) Prerequisite: Speech and Dram. Arts 351. Weaver

Study of hearing problems in industry, legal implications, hearing, testing of adults, and adult hearing rehabilitation.

652. Pediatric Audiology. (2:2:1) S. (Su. odd years) Prerequisite: Speech and Dram. Arts 351. Moore

Principles and procedures of audiometry and other audiologic evaluations of preschool and school-age children.

654A,B,C,D. Special Projects in Audiology. (1:1:0 ea.) F.S.Su.

Individual study in depth in the clinical or applied areas. The student must obtain permission from the instructor under whom he wishes to study.

655A,B,C. Special Studies in Audiology. (1:1:0 ea.) F.S.Su. Prerequisite: permission of instructor.

Individual study in depth in the basic sciences and foundations areas.

660. Theory of Interpretation. (2:2:0) F. (Su. odd years) Prerequisites: Speech and Dram. Arts 121, 123, 325, or equivalent. Gledhill, Golightly

Study of the theories of Plato, Aristotle, Horace, Quintilian, Longinus, Bulwer, and Burgh relevant to the art of oral interpretation, and of the theories of Sheridan, Walker, and later writers who continued such analyses.

661. Oral Interpretation of Classical Literature. (2:2:0) S. Prerequisites: Speech and Dram. Arts 121, 123, 325, or equivalent. Metten, Woodbury

Analysis of the classic forms of poetry, and of the interpretation theories and techniques appropriate to their artful performance.

662. Regional Dialects. (2:2:0) F. Clinger, Whitman

Analysis and personal mastery of those dialects which commonly occur in poetry and dramatic literature.

663. Program Building and Lecture Recital. (2:2:0) S. Prerequisites: Speech and Dram. Arts 121, 123, 325, or equivalent. Gledhill, Metten

Theory and practice in the structuring of literary excerpts into formal lecture recitals.

667. History of Acting. (2:2:0) (S. even years) Prerequisite: Speech and Dram. Arts 423. Woodbury

The history of acting theories and their implementation from classical until modern times.

668. Special Problems in Theatre History. (1-3:1-3:0) F.S.

Supervised research in selected historical problems.

670. Advanced Play Production—Technical. (2:2:0) S. Prerequisites: Speech and Dram. Arts 319, 320, 675, or equivalent. Henson

Analysis and application of design theory for the nonrealistic theatre.

671. Experimental Theatre. (2:2:0) F. Prerequisites: Speech and Dram. Arts 460, 461, or equivalent. Hansen

Theory and practice in directing nonconventional dramatic literature.

672. Problems of the Producing Director. (2:2:0) F. Hansen

Supervised research in the social and economic problems of producing theatre art: budgeting, programming, consumer analysis, social responsibilities.

673. Advanced Play Production—Directing. (2:2:0) S. (Su. even years) Prerequisites: Speech and Dram. Arts 460 or equivalent. Woodbury

An advanced study of theories and techniques.

674. Projects in Theatre. (1-4:1-4:0) F.S.Su. May be repeated.

Supervised applied theory in playwriting, directing, acting, and stagecraft.

675, 676. Stage Design. (2:2:1 ea.) F.S. Prerequisites: Speech and Dram. Arts 319, 320, or equivalent. Henson, Pope

Advanced theory and techniques of scenic design.

678. Stage Lighting. (1-2:1-2:0) F.Su. Prerequisites: Speech and Dram. Arts 319, 320. Pope, Struthers

Advanced theory and techniques of theatrical lighting.

680A,B. Internship in Advanced Methodology and Clinical Practicum in Speech Pathology. (1:0:4 ea.) F.S.Su.

Internship is a vital requirement of the graduate program. It is carried out in one or more hospitals, community clinics, schools, etc., located in Provo and in other cities and states.

681A,B. Internship in Advanced Methodology and Clinical Practicum in Audiology. (1:0:4 ea.) F.S.Su.

Internship is a vital requirement of the graduate program. It is carried out in one or more hospitals, community clinics, schools, etc., located in Provo and in other cities and states.

690. Methods and Problems of Research in Speech and Dramatic Arts. (2:2:0) F. Su.

Required of all graduate students. It is imperative that graduate students take this course during their first semester.

691. Research in Oral Communication: The Historical-Critical Approach. (2:2:0) S. Boren

692. Research in Oral Communication: The Quantitative Approach. (2:2:1) S. Peterson

693. Seminar in Persuasion. (1-3:1-3:0) F. (Su. even years) Peterson

In-depth analysis of persuasion theory—from the classical theorists to contemporary trends.

694. Seminar in Public Address. (1-3:1-3:0) S. (Su. odd years) Bateman

Analysis and evaluation of the research and publications in public address.

695. Seminar in Readers Theatre. (1-3:1-3:Arr.) S.Su. Gledhill

Theory and practice of editing, directing, and dramatizing, exclusively for readers theatre.

696. Seminar in Interpretation. (1-3:1-3:0) F. (Su. even years) Gledhill, Metten

Supervised research and analysis of advanced interpretation techniques.

697. Seminar in Arena Theatre. (1-4:1-4:0) S. Hansen
Theory and practice of directing exclusively for the arena theatre.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

731. Dramatic Theory and Criticism I. (3:3:0) F. (Su. odd years) Metten
The history and principles of dramatic theory and criticism from Plato to Lessing.

732. Dramatic Theory and Criticism II. (3:3:0) S. (Su. even years) Metten
The history and principles of dramatic theory and criticism from Lessing to Langer.

733. Dramatic Theory and Criticism III. (3:3:0) S. (Su. odd years) Hansen
A study and analysis of the major dramatic forms: tragedy, comedy, melodrama, farce.

740. Seminar in the Theory and History of Theatrical Costuming. (2:2:1) S.Su.

772. Directing and Staging I. (3:3:0) F. (Su. even years) Prerequisite: Speech and Dram. Arts 673. Woodbury
Theory and techniques of directing and staging historical and period plays: Greek, Roman, Medieval, Elizabethan, Restoration, and Continental plays before 1841.

773. Directing and Staging II. (2:2:0) S. (Su. odd years) Prerequisite: Speech and Dram. Arts 673. Woodbury
Theory and techniques of directing and staging plays from the modern and abstract repertoire: Expressionism, Constructivism, Epic, Romanticism, Absurd, Oriental, Cruelty, Happenings.

797. Research. (1-6:Arr.:Arr.) F.S.

799. Dissertation for Ph.D. Degree. (Arr.) F.S.

Scene from experimental theatre production in Margetts Arena Theatre

Statistics

Professors:	Carter, Nielson, Richards (chairman, 348 JKB).
Associate Professors:	Burton, Faulkner, Hilton.
Assistant Professors:	Beus, Christensen, Rencher.

Statistics can be termed the application of the scientific method to decision making. Through the years statistics has changed from simple data collection, presentation, and analysis, to a field involving experimental design, mathematical probability, survey sampling, quality control, and a variety of other areas utilizing scientific methods to extend information from a small sample to an entire population from which the sample is drawn.

Though a relatively recent professional field of study, statistics has been given greater emphasis by a number of leading universities as a result of the growing demand for statisticians in the natural and social sciences as well as in industry and education.

The curriculum in statistics is designed to serve two purposes: (1) to provide students with the necessary education background for careers as professional statisticians in industrial organizations, government agencies, universities and research institutes, and (2) to provide an integrated series of courses which will serve the entire University in providing technical tools which can be applied in many subject-matter areas.

The department offers a major in statistics in either the College of Physical and Engineering Sciences or the College of Business. The department also offers the Master of Science degree and both an undergraduate and a graduate minor.

Requirements for a Major in Statistics in the College of Physical and Engineering Sciences

A. Departmental Requirements:

1. Stat. 221 or 332, 336, 337, 421, 422, and five additional classes from Stat. 241, 432, 433, 511, 522, 531, 534, 541. Of these five, at least two must be selected from Stat. 522, 531, 534, 541.
2. Alternative set of courses: Stat. 501, 502, 421, 422, and four additional classes from Stat. 432, 433, 511, 522, 534, 541.
3. (a) Mathematics through 214 for those not planning graduate work in statistics.

   (b) Mathematics through 244 for those choosing a mathematics minor, or those planning graduate work in statistics.

B. Other Requirements:

1. A minor in another department of the University.
2. At least twelve hours in the College of Physical and Engineering Sciences not including the requirements in Section A.

   It is recommended that those contemplating graduate work in statistics also take Math. 541 and 542.

Requirements for a Major in Statistics in the College of Business

A. Departmental Requirements:

1. Stat. 221 or 332, 330, 421, and six additional classes from Stat. 241, 337, 422, 432, 433, 511, 522, 531, 534, 541, Math. 311 or Acctg. 456. Of these at least one must be from Stat. 522, 531, 534, 541.
2. Math. 111, 112, 113, 214, or equivalent.
3. A minor in another department of the University.

B. Other Requirements:

1. The core requirements of the College of Business (See College of Business Section.)
2. It is recommended that those contemplating graduate work in statistics take Stat. 422, and Math. 541, 542.

Requirements for a Master of Science Degree

A. Statistics Department:

A student will be expected to complete a total of 27 hours, exclusive of thesis, of which a minimum of 18 hours, exclusive of thesis, must be in the Department of Statistics. The student must include 621 and either 636 or 631 in his program. Students with no previous training in statistics must complete Stat. 501, but it will not count toward the 27 hours required.

B. Other Departments:

1. The student must complete Math. 541 and 542 if not taken as an undergraduate.
2. The student must complete a minor in another field.

Courses

221. Principles of Statistics. (3:3:1) F.S.Su. (m) (G-PS) Prerequisites: Math. 111, 105 or 108 or equivalent. Staff

Frequency distributions; measures of central tendency and dispersion; elementary probability; regression and correlation; sampling; elementary statistical inference including the normal, student's "t," chi-square, and analysis of variance tests.

241. Elementary Probability. (2:2:0) F.S.Su. (m) Prerequisite: Math. 111, 105 or 108. Recommended: Stat. 221, 322 or 332. Staff

Combinations; permutations, binomial, Poisson, multinomial, and hypergeometric distributions; combinatorial probability.

322. Elements of Mathematical Statistics. (2:2:0) F.S.Su. (m) Prerequisite: Math. 214. Faulkner, Nielson, Richards

Introduction to probability; frequency distributions and estimation from a theoretical standpoint.

330. Statistical Methods Used in Business. (3:3:0) S. (m) Prerequisite: Stat. 221 or 332 or equivalent. Carter, Nielson

Advanced time series analysis; growth curves; multiple correlation; forecasting; sample survey methods; introduction to operations analysis; introduction to sampling inspection and quality control.

332. Statistical Methods Used in Engineering. (2:2:0) F.S.Su. (m) Prerequisite: Math. 214 or equivalent. Faulkner, Rencher, Richards

Frequency distributions; measures of central tendency and dispersion; elementary probability; regression and correlation; sampling; elementary statistical inference including the normal, student's "t," chi-square, and analysis of variance tests. Same material as Stat. 221; uses calculus but stresses methods rather than theory.

336. Statistical Methods Used in the Sciences I. (3:3:0) F. Prerequisite: Stat. 221 or 332 or equivalent. Carter, Hilton

Estimation and tests of hypothesis; analysis of variance, including multiple range tests and orthogonal comparisons; introduction to experimental design; multiple and partial regression.

337. Statistical Methods Used in the Sciences II. (3:3:0) S. Prerequisite: Stat. 330 or 336. Carter, Hilton

Analysis of covariance and multiple covariance; multiple range tests and orthogonal comparisons in covariance analysis; sampling; nonparametric methods including contingency, sign, runs, and rank tests; rank correlation and partial rank correlation.

421, 422. Theory of Statistics I and II. (3:3:0 ea.) F.S. Prerequisite: Math. 214 or equivalent. Recommended: a previous course in statistics and concurrent registration in Math. 243 and 244 respectively. Faulkner, Nielson, Richards

Development of distribution theory from the theory of probability; common discrete and continuous distribution functions including derived sampling distributions; tests of hypotheses and estimation using the principles of maximum likelihood.

432. Quality Control and Industrial Statistics. (3:3:0) F. (m) Prerequisite: Stat. 221 or 332. Recommended: Stat. 330 or 336. Rencher, Richards

Quality control, sampling inspection and sequential analysis, industrial experimentation.

433. Operations Analysis. (3:3:0) S. (m) Prerequisite: Math. 112 or equivalent. Christensen, Richards

Mathematical decision-making processes including linear programming game theory, inventory and replacement models, sequencing and scheduling procedures.

501. Statistics for Research Workers I. (5:4:3) F.S.Su. Prerequisites: Math. 105 or equivalent. Beus, Carter, Hilton

Probability, estimation, confidence intervals, tests of hypotheses, regression, analysis of variance and nonparametric methods. Designed for graduate students majoring in the natural or social sciences.

502. Statistics for Research Workers II. (5:4:3) S. Prerequisite: Stat. 501 or equivalent. Beus, Carter, Hilton

Analysis of covariance; multiple regression; linear models; experimental design and sampling. Designed for graduate students majoring in the natural or social sciences.

511. Advanced Computer Methods in Statistics. (3:1:6) F. Prerequisites: Math. 311 or Acctg. 456, Stat. 330 or 336 or 501. Beus, Carter

Application of digital computers to statistical problems including analysis of variance, multiple regression, analysis of covariance, factorial experiments, response surfaces, Monte Carlo simulation, linear programming, etc.

522. Theory of Linear Models. (3:3:0) S. Prerequisites: Stat. 421, and at least concurrent registration in 422. Faulkner, Nielson, Richards

A study of linear hypotheses with application to regression and experimental design.

531. Experimental Design. (3:3:0) F. Prerequisites: Stat. 330 or 336 or 501. Carter, Hilton

Randomized blocks, Latin squares, factorial designs, fractional replication, confounding and incomplete blocks.

534. Sampling. (3:3:0) S. Prerequisite: Stat. 336 or equivalent. Christensen, Nielson

Systematic, simple random, stratified and cluster sampling, optimum allocation, ratio estimation, etc. Applications to various fields.

541. Advanced Probability. (3:3:0) F. Prerequisite: Math. 214. Recommended: previous or concurrent registration in Stat. 421. Burton, Faulkner, Nielson

Recurrent events, runs and sequences, advanced combinatorial methods, random walk, queuing and Monte Carlo methods, introduction to Markov chains and sequential processes.

591A,B. Graduate Seminar in Statistics. ($\frac{1}{2}$:1:0 ea.) F.S.

621, 622. Advanced Theory of Statistics I and II. (3:3:0 ea.) F.S. Prerequisites: Math. 542, Stat. 422. Recommended: Stat. 522. Faulkner

Advanced topics in the theory of estimation, testing hypothesis, multiple regression, multivariate analysis.

623. Analysis of Variance. (3:3:0) F. Prerequisite: Stat. 422, 522 or equivalent. Nielson

Theory of analysis of variance for fixed effects, random effects and mixed models including two-three and higher-way layout, Latin squares, incomplete blocks, and nested designs.

631. Advanced Experimental Design. (3:3:0) S. Prerequisites: Stat. 422, 531. Recommended: Stat. 522. Carter, Nielson

Advanced topics in experimental design including the general p-level factorial, Youden squares, balanced incomplete blocks, response surfaces, lattice design.

632. Advanced Industrial Statistics and Reliability. (3:3:0) S. Prerequisite: Stat. 422, 432, or equivalent. Richards

Advanced topics in sequential sampling, tolerance limits, life testing, and reliability.

636. Advanced Statistical Methods. (3:3:0) F. Prerequisites: Stat. 422 and 336 or 501. Carter, Richards

Advanced topics in estimation, confidence intervals, tests of hypotheses including distribution-free methods, truncated distributions, order statistics.

641. Advanced Topics in Probability I. (3:3:0) F. Prerequisites: Math. 542, Stat. 422, 541. Burton

Advanced topics in Markov chains, stochastic processes and information theory.

642. Advanced Topics in Probability II. (3:3:0) S. Prerequisites: Math. 542, Stat. 541, 621. Recommended: Stat. 641, Math. 641. Burton

A measure theoretic approach to probability including Borel sets, characteristic functions, measure spaces, measurable functions.

690A,B. Special Topics in Statistics. (3:3:0 ea.) F.S.Su. Prerequisite: consent of instructor. Staff

Specialized topics in statistics varied from time to time.

695. Reading in Statistics. (1-2:1-2:0) F.S.Su. Prerequisite: consent of department. Staff

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su. Prerequisite: consent of department. Staff

Teacher Education

Professors: Alley (chairman, 152 McK), Belt, Berryessa.

Associate Professors: Allred, Babcock, Baird, Campbell, Harmon, Holder, Sucher, Van Alfen, Wilcox, Wilson, Wolfgramm.

Assistant Professors: Alder, Bishop, Brown, Cottrell, LaPray, Puckett, Winterrose.

Instructors: Henderson, Nelson, Webb.

Clinical Instructors: Bowles, Carlisle, H. Clark, W. H. Clark, Craig, Davidson, de Jong, Jacob, Miller, Provost, Young.

The Teacher Education Department is organized to develop effective and capable teachers. Courses sponsored by this department are designed to help students understand children, organize materials, and acquire the knowledge, skills, and attitudes of effective teachers. The department trains teachers in three areas: special education, elementary education, and secondary education.

For admission to the teacher education program (first class in sequence: Tchr. Ed. 301) a student must have a grade-point average of 2.25 or better and maintain a BYU grade-point average of this standard or be dropped from the program. He must also satisfy a grammar and spelling requirement by passing a test which is administered by the Testing Service, B-238 ASB, or he may qualify by passing the ACT (American College Test) English section with a score of 20 or higher.

Students are required to obtain a Certificate of Admissions Card by clearing through the Teacher Clearance Office (111 McKay) when the above prerequisites are met. This must be done prior to registration. TCO clearance is also required for certain other professional sequence courses as noted in the catalog.

Courses

301A. Basic Concepts and Principles of Teaching. (2:2:1) F.S.Su. Home Study also. Prerequisite: GPA 2.25. Person must have passed Grammar and Spelling Test for Teachers or English ACT with a score of 20 or above.

Baird, Berryessa, Bowles, Winterrose

For potential elementary teachers. An exposition of a simple and operational concept of teaching, consisting of three elements: the objective, the learning experience, and receptiveness to learning.

301B. Basic Concepts and Principles of Teaching. (1-2:1-2:1) F.S.Su. Home Study also. Prerequisite: GPA 2.25. Person must have passed Grammar and Spelling Test for Teachers or English ACT with a score of 20 or above.

Baird, Belt, Holder, Webb

For potential secondary teachers regardless of level or field. An exposition of a simple and operational concept of teaching, consisting of three elements: the objective, the learning experience, and receptiveness to learning.

310. The State, the School, and the Teacher. (2:2:0) F.S.Su. Home Study also.

Cottrell, Henderson

Understanding the school and its relationship to the community, the state and the nation; how schools are organized and administered, with emphasis on Utah school organization and Utah school laws.

324. Arts and Crafts for Elementary Teachers. (2:2:1) F.S.Su. Alder

Simple weaving, puppetry, papier-mâché, clay modeling, and other activities suitable for children. These activities are suited to grades three through six.

325. Arts and Crafts for Early Childhood. (2:2:1) F.S.Su. Alder

Exploring ideas and materials for the young child (nursery school, kindergarten through third grade).

340. Children's Literature. (2:2:0) F.S.Su. Home Study also. Bowles, Winterrose

Evaluation of significant books, past and present, that meet children's needs.

360. Education of Exceptional Children. (2:2:1)

A general course designed to acquaint the student with the causes, recognition, incidence and characteristics of all types of exceptional children. Designed to meet needs of both classroom teacher and person going into special education. (formerly 460)

377. Secondary Teaching Curriculum and Methods. (3:3:1) F.S.Su. Prerequisite: Tchr. Ed. 301. Belt, Holder, Van Alfen, Wilcox

Identification of teacher and pupil activities required for conceptual learning and for each of the following types of subject matter and teaching: symbolic, performance ability, and habit. Lectures, demonstrations, and participation in noninstructional activities at a high school. (Students should arrange their class schedules to permit approximately 14 hours for directed observation and participation during the 8:00 a.m. hour through the 3:15 p.m. hour.) Students interested in Indian education should register in a specially designated section.

402. Educational Psychology. (2:2:0) F.S.Su. Home Study also. Prerequisites: Tchr. Ed. 420, 449, CDFR 210. Babcock, LaPray

Psychological facts, principles, and concepts related to the teacher-learning situation are covered.

403. Development and Learning. (4:4:0) F.S.Su. Home Study also. Prerequisite: Tchr. Ed. 449 or 479.

Designed to give the student an understanding of the psychological facts, principles, and concepts related to the teaching-learning situation. Attention is given to such topics as the learning process, readiness, individual differences, motivation, and evaluation.

406. Instructional Media and Materials. (2:2:1) F.S.Su. Brown, Wadham

Introduction to the selection, production, and utilization of instructional materials; and operation of related media equipment through lectures, group discussions, demonstrations, and individually programmed experiences.

415. Educational Values. (2:2:0) F.S.Su. Home Study also. Harmon, Wilcox, Wolfgramm

Identification and analysis of fundamental American values and of value systems upon which American educational objectives should be based. Problems and concepts encountered in earlier courses in the educational sequence are examined in the light of the values studied.

420. Basic Classroom Procedures. (4:4:0) F.S.Su. Prerequisite: Tchr. Ed. 301.

For prospective elementary teachers. Identification of teacher and pupil activities required for conceptual learning and for the following related types of subject matter and teaching: symbolic, performance ability, and habit.

421. Teaching Reading in the Elementary Schools. (3:3:0) F.S.Su. Home Study also. Prerequisites: Tchr. Ed. 301, 420, 449. Allred, Sucher

Foundations in reading, instruction, methods, materials, and instructional aids for teaching reading in the elementary school.

422. Kindergarten Proficiency. (2:2:0) F.S.Su. Clark

Organization of programs, lesson planning, methods and materials, and best practice in early childhood education (ages four to nine) with emphasis on the theory and practice in kindergarten.

423. Teaching Science and Social Studies in the Elementary School. (2:2:0) F.S. Su. Prerequisites: Tchr. Ed. 301, 420, 449. Clark, Winterrose

Materials and methods used in teaching science and social studies in the elementary schools.

424. Teaching Language Arts in the Elementary Schools. (2:2:0) F.S.Su. Prerequisites: Tchr. Ed. 301, 420, 449. Allred

The place of language arts in the elementary school curriculum with the materials and techniques necessary for teaching them.

425. Methods and Procedures of Teaching Mathematics in the Elementary School. (2:2:0) F.S.Su. Home Study also. Prerequisites: Tchr. Ed. 301A, 420, 449. Brown, Nelson

Attention is directed to the mathematical ideas which underlie the program. Particular stress is given to effective experience for teaching mathematical concepts and skills, including procedure for attacking mathematical and word problems.

430. Teaching Foreign Language in the Elementary School (FLES). (3:3:Arr.) Prerequisites: Tchr. Ed. 301A, and modern language course 322 or equivalent in the language minor. Bishop

Will consider second-language learning, methods and techniques, preparation and use of audio-visual media, use of television, evaluating student progress, articulation, current research and literature.

449. Elementary Student Teaching. (2-10:0:20-40) F.S. Prerequisite: Tchr. Ed. 301A, Math. 305, Art 226, Music 226, 337, Tchr. Ed. 324 or 325, 340. Puckett

Designed to develop readiness for full comprehension of the principles of teaching and the remaining subject-matter and education courses. Special attention to on-the-job lesson planning and unit organization. Seminar on student teaching problems is held weekly. (A laboratory fee of $45.00 is charged, payable upon application for student teaching.)

An application for a specific assignment must be filed with Student Teaching Office one semester in advance of receiving an assignment. Student teachers are expected to do responsible teaching, participate in co-curricular activities, and keep in close contact with the faculty and students in a public school, as well as to participate in seminars and conferences with their supervisors. During this period of student teaching, the student must limit his load to the student teaching registration only.

461. Introduction to Teaching the Mentally Retarded. (2:2:1) F.S.Su. Home Study also. Prerequisite: Tchr. Ed. 360. LaPray, Pinegar, Wilson

Introductory course in education of mentally retarded children; study of classification and characteristics of the retarded, and general problems in their care, management, and education.

462. Introduction to Teaching the Visually Handicapped. (2:2:0) F.Su. Craig

Introductory course in education of visually handicapped children; study of their identification, classification and characteristics, and general problems in their care and education.

463. Standard English Braille. (3:3:0) F.Su. Craig

Systematic presentation of Standard English Braille for those who intend to teach the visually handicapped or do volunteer transcribing. Not a course in touch reading.

464. Arts and Crafts for the Handicapped. (2:2:1) F.Su. Wilson

Arts, crafts and related activities as they may be adapted to meet the needs of individuals with disabilities.

465. Introduction to Teaching the Physically Impaired. (2:2:1) F.Su. Prerequisite: Tchr. Ed. 360. Wilson

Introductory course for teachers of the physically handicapped; types and causes of physical impairment in children; and general problems of care and education of these children.

466. History, Education, and Guidance of the Hearing Impaired. (2:2:0) F. Prerequisites: Speech and Dram. Arts 271, Tchr. Ed. 360.

Background and history of education and guidance for students with impaired hearing.

467. Teaching Speech and Language to the Hearing Impaired. (4:4:0) F. Prerequisites: Speech and Dram. Arts 271, 373, 374; Tchr. Ed. 360.

Principles and procedures of teaching speech and language to children with hearing impairment.

469. Methods of Teaching Elementary School Subjects to the Hearing Impaired. (3:3:0) S. Prerequisites: Speech and Dram. Arts 271; Tchr. Ed. 360 and 467.

Techniques used in teaching reading, arithmetic, social studies, science, and elementary school subjects to children with impaired hearing.

470. Education-Community Relationships for Exceptional Children. ((2:2:1) F.S.Su. Prerequisite: Tchr. Ed. 360.

A course designed to acquaint the student with problems of exceptional children. Vocational planning, and school, community, and parent relationships are considered.

479. Secondary Student Teaching. (4-8:1:20-40) F.S. Prerequisites: Tchr. Ed. 301, 377. Puckett

Designed to develop readiness for full comprehension of the principles of teaching and the remaining subject-matter and education courses. Special attention to on-the-job lesson planning and unit organization. (A laboratory fee of $45.00 is charged payable upon application for student teaching.)

An application for a specific assignment must be filed in the Student Teaching Office one semester in advance of receiving an assignment. Student teachers are expected to do responsible teaching, participate in cocurricular activities, and keep in close contact with the faculty and students in a public school as well as to participate in seminars and conferences with their supervisors. During this period of student teaching, the student must limit his load to the student teaching registration only.

490, 491. Seminar. (1-2:1-2:0 ea.) F.Su. Alley

493, 494. Independent Reading. (1-2:1-2:0 ea.) F.S.Su. Alley

PREPARATION OF SPECIAL EDUCATION TEACHERS

The College of Education offers professional courses leading to certification in special education for exceptional children in mentally retardation, motor handicapped, and visually handicapped. Students desiring certification must meet course requirements as follows:

1. **General Education Requirements**

	Hours
a. General Area Requirements	
English 111 and 112, or 115 and 116, or 118. English composition	3-6
Religion	16
Health 130	2
*Physical Education	2
History 170. History and government	3
*P.E. 103 and 184 are required.	
b. Group Requirements	
Biological Science:	
Botany 105. Plant Kingdom	3

Zoology 105. Animal Biology	3
Physical Science:	
Geology 101. Introduction to Geology	2
Geology 102. Geology Laboratory	1
Physics 100. Essentials of Physics	3
Humanities:	
Speech and Dram. Arts 121. Voice, Diction and Interpretation	3
English 250 or 260 or 270 or 355 or 356. English literature	3
Social Science:	
Psychology 111. Introductory course	3
Sociology 111 or 112. Introductory courses	3
c. Math.-Science or Language Option	
Language Preference:	
Foreign Language	6-12
Math.-Science Preference:	
Math. 305. Basic Concepts of Mathematics	3
Zoology 261. Elementary Human Physiology	3
Zoology 263. Elementary Physiology Laboratory	1
Total	57-65

2. **Subject-Matter Areas**

a. Humanities and Aesthetics:	Hours
Art 226. Art for Elementary Teachers	3
Music 226. Fundamentals and Skills for Elementary Education Teachers	2
Music 337. Music and Materials for Elementary Children	2
Teacher Ed. 340. Children's Literature	2
Teacher Ed. 464. Arts and Crafts for the Handicapped	2
b. Physical Education and Health:	
Health 361. School Health for Elementary Teachers	2
Physical Education 375 or 376. Physical Education of Primary or Intermediate Grades	2
c. Social Science:	
Geography 120. Geography and World Affairs	3
History 360, or 365, or 366	2
CDFR 210. Child Development	3

3. **Major in Elementary Education** (Refer to "Preparation of Elementary School Teachers" page 471.

Note: One half of student teaching (Teacher Ed. 449) in areas other than visually handicapped may be done in special education class.
Prerequisites for Student Teaching: Successful completion of Art 226, Music 337, Math. 305, Tchr. Ed. 301A, 340, 360, and 464; also introductory courses in area of specialization.

4. **Special Education Minor** (15-17 hours)

a. Core Courses Required in All Areas of Specialization:	Hours
Tchr. Ed. 360. Education of Exceptional Children	2
*Speech and Dram. Arts 230. Introduction to the Disorders of Communication	2
Tchr. Ed. 470. Education - Community Relationships for Exceptional Children	2
Grad. Ed. 569. Practicum in Special Education	4

*Recommended but not required in area of visually handicapped.

b. Areas of Specialization:	
(1) Mentally Retarded.	
Tchr. Ed. 461. Introduction to Teaching the Mentally Retarded	2
Grad. Ed. 567. Problems in the Education of the Mentally Retarded Children	3

(2) Motor Handicapped.	
Tchr. Ed. 465. Introduction to Teaching the Physically Impaired	2
Grad. Ed. 566. Problems in the Education of Orthopedically Handicapped Children	3
(3) Visually Handicapped.	
Tchr. Ed. 462. Introduction to Teaching the Visually Handicapped	2
Tchr. Ed. 463. Standard English Braille	3
Zool. 374. Pathology of Organs of Vision	2

Note: Students who wish to teach in special education classes at the secondary level, or in the area of the emotionally disturbed, should see an adviser in special education as early in their program as possible.

Note: Those students interested in speech and hearing, should consult with the Speech and Dramatic Arts Department for direction.

MICRO-TEACHING

Micro-teaching is a recent development in teacher education in which a miniature teaching situation is created under controlled conditions. All of the elements of the teaching act are present, but on a reduced scale—the length of the lesson taught is approximately seven to ten minutes and the class consists of only four or five students. Typically the lesson is recorded on video tape and then played back for the student teacher and the micro-class at which time an evaluation of the teacher's performance is conducted by an instructor from the Teacher Education Department.

The technique is being used currently in all Teacher Education 301 classes, in a number of Teacher Education 377 classes, in a graduate education class, and in two experimental settings. Transfer students who lack two hours of student teaching credit may enroll in special micro-teaching classes to obtain this credit. Consult the Department of Special Courses and Conferences.

PREPARATION OF TEACHERS OF INDIANS

Elementary and secondary school teachers are encouraged to prepare themselves to meet the unique challenges of teaching Indians by taking Indian studies courses as electives where possible. Students may elect to complete their student teaching in Indian public schools by so indicating at the time of making application for student teaching. Any student interested in Indian teacher education should contact the coordinator of Indian Education in the College of Education.

PREPARATION OF ELEMENTARY SCHOOL TEACHERS

The department offers a comprehensive program which will satisfy requirements for an elementary teaching certificate as well as graduation requirements for students registered in the College of Education. The candidate for certification must meet University graduation requirements.

The program consists of four elements:

1. University requirements for general education.
2. The arts and sciences majors for elementary school teachers.
3. The subject-matter minor, a material contribution to the student's academic competence and chances for employment.
4. The professional preparation, which includes 31 semester hours of designated professional education courses, constituting a major in elementary education.

1. **General Education Requirements** (56-65 hours)
   a. Biological Science: (6 hours) Bot. 105 and Zool. 315.
   b. English Composition: (6 hours) Engl. 111 and 112, or 115 and 116.

- c. History and Government: (3 hours) Hist. 170.
- d. Humanities: (6 hours) Speech and Dram. Arts 121 and Engl. 250 or 260 or 270 or 355 or 356 or Humanities 101.
- e. Math.-Science or Foreign Language Preference: (6-12 hours)
  - (1) Math.-Science: (6 hours) Micro. 121 or 321; or Math. 306; or Zool. 261 and 262; and Math. 305.
  - (2) Foreign Language: (6-12 hours) Completion of a 201 language course meets this requirement.
- f. Physical Education and Health: (4 hours) Health 130; P.E. 184, 103, and two courses chosen from two of the following categories:
  - (1) Individual games: P.E. 104, 123, 126, 133, 134, 160, 161.
  - (2) Group games: P.E. 140, 144, 147, 149, 152.
  - (3) Physical fitness: P.E. 176, 177, 178.
- g. Physical Science: (6 hours) Geol. 101, 102, and Physics 100.
- h. Religion: (16 hours)
- i. Social Science: (6 hours) Geog. 120; CDFR 210.

2. **The Arts and Science Major** (26 hours)
   - a. Humanities and Aesthetics: (11 hours) Art 226; Music 226, 337; Tchr. Ed. 324 or 325, 340.
   - b. Math.: (3 hours) Math. 305.
   - c. Physical Education and Health: (4 hours) Health 361; P.E. 375 or 376.
   - d. Social Science: (8 hours) Hist. 360 or 365 or 366 and an additional six hours from the following: Anthrop. 105; Sociol. 111, 112, or 357; Pol. Sci. 110 or Econ. 101; Psych. 111.

3. **The Subject-Matter Minor** (14-18 hours)

Elementary education majors are required to have a minimum of fourteen hours in an approved area of specialization. This area is to be chosen from the following list:

Art: (15 hours) Art 101 or 108, 121, 122, 227 or 233, 256 or 263, 301.

Industrial Education: (15 hours) Indus. Ed. 100, 105, 250, 260, 360, 505. Those planning to teach industrial education in the elementary schools should take Drafting 111 in place of Indus. Ed. 105.

Language Arts: (14-15 hours) Speech and Dram. Arts 230, 360, 527; and 8-9 hours from the following: Engl. 215, 218, 221, 225, 325, 426. (Tchr. Ed. 424 recommended)

Library Science: (14 hours) Lib. Sci. 355, 363, 370, 466; and Speech and Dram. Arts 527.

Mathematics: (14 hours) Courses may be chosen from the following: Math. 300, 301, 302, 306, 371, 387, 495. (Students planning on a math. minor should consult with the Department of Mathematics before starting their minor program.)

Modern Language: (17-18 hours)

French: 201, 301, 311, 326, 445; Tchr. Ed. 430. (Classes up to and including French 311 may be waived for students who demonstrate a proficiency in the foreign language.)

German: 201, 211, 301, 326, 440; Tchr. Ed. 430. (Classes up to and including German 301 may be waived for students who demonstrate a proficiency in German.)

Spanish: 201, 301, 311, 326, 445; Tchr. Ed. 430. (Students who demonstrate a proficiency in Spanish may take 321 in place of 201, 301, and 311.)

Music: (14-18 hours) Music 101, 191, 193, 202, 421, 4 hours' ensemble, 4 hours' piano and/or voice. Students having a performing proficiency in piano and/or voice may, by special examination, have the private lessons waived.

Physical Education: (15 hours)
Men - P.E. 181, 182, 201 or 330, 231, 232, 234, 235, 237, 372 or 374, 373, *341.
Women - P.E. 181, 182, 241, 242, 243, 330, *341; Health 121.
*Prerequisites: Zool. 261 and 262.

Science: (15 hours) Chem. 100; Physics 127, 137; Botany 205; Zool. 261, 262, 372. (Tchr. Ed. 423 recommended)

Social Science: (14-15 hours) Courses chosen from the following in at least three fields: Anthrop. 105; Econ. 101; Hist. 110, 111, 340, 352; Psych. 350; Pol. Sci. 105, 110, 564; Sociol. 111, 112, 357, 403, 512; Geog. 211, 231, 450, 501. (Tchr. Ed. 423 recommended)

Speech and Drama: (15 hours) Speech & Dram. Arts 101, 230, 231 or 305, 360, 527, 572, 573.

Note: (1) Students desiring to obtain a special education minor should refer to "Preparation of Special Education Teachers" for requirements.
(2) A student **may not** use a course listed in his minor field to count again in meeting the requirements of the general education program, the arts and science major or the professional education major.
(3) Additional minors or additional courses in the minor area may be permitted by special petition to the coordinator of elementary education.

4. **The Major in Elementary Education** (31 hours - in sequence to be taken)

*Tchr. Ed. 301A.	Basic Concepts and Principles of Teaching	2 hours
*Tchr. Ed. 420.	Basic Classroom Procedures	4 hours
*Tchr. Ed. 449.	Elementary Student Teaching	8-10 hours
Tchr. Ed. 310.	The State, the School, and the Teacher	2 hours
*Tchr. Ed. 402.	Educational Psychology	2 hours
Tchr. Ed. 406.	Educational Materials and Media	2 hours
Tchr. Ed. 415.	Educational Values	2 hours
*Tchr. Ed. 421.	Teaching Reading in the Elementary School	3 hours
*Tchr. Ed. 423. (or)	Teaching Science and Social Studies in the Elementary School	2 hours
*Tchr. Ed. 424.	Teaching Language Arts in the Elementary School	2 hours
*Tchr. Ed. 425.	Methods and Procedures of Teaching Math. in the Elementary School	2 hours

*Teacher Clearance Office approval required before registration.

Information Sheets. Copies of the information sheets for elementary education majors are available in Room 111 McKay (Teacher Clearance Office). Students enter one of the two cycles within the elementary education program according to alphabetical order.

September Experience. All students in the elementary education program are required to have a September classroom experience (1-2 weeks at the beginning of the school year) prior to the semester in which they do student teaching. This classroom experience is to be done in the student's local community near his home. Application is made in May through the Teacher Clearance Office.

Prerequisites for Student Teaching. Successful completion of the following courses: Art 226; Music 226, 337; Math. 305; Tchr. Ed. 301A, 324 or 325, and 340.

During the semester in which the student takes Tchr. Ed. 301A he will apply for a student teaching assignment for the following semester as well as make application for his Utah teaching certificate.

PREPARATION OF SECONDARY SCHOOL TEACHERS

The College of Education offers professional courses leading to secondary certification. Students desiring certification in this area must complete course requirements in the following areas:

1. **General education.** See the general education requirements in the Student Academic Services Section of this catalog.
2. **An approved teaching major and minor, or composite major.** (See below.)
3. **Professional education.** The following required courses fill the state requirements for professional education. Sequence courses must be taken as shown below. While nonsequential courses may be taken at any time, it is highly recommended that they be taken during the student-teaching semester. For course prerequisites check course descriptions.

Sequence courses:

*Tchr. Ed. 301B.	Basic Concepts and Principles of Teaching	2 hours
*Tchr. Ed. 377.	Secondary Teaching Curriculum and Methods	3 hours
*Tchr. Ed. 479.	Secondary Student Teaching	8 hours
*Tchr. Ed. 403.	Development and Learning	4 hours

Note: Students whose major departments offer courses equivalent to Tchr. Ed. 377 and 479, bearing those numbers, must register in the appropriate department.

Nonsequential courses, to be taken during the student-teaching semester:

Tchr. Ed. 310.	The State, the School, and the Teacher	2 hours
Tchr. Ed. 406.	Instructional Media and Materials (Recommended but not required.)	2 hours
Tchr. Ed. 415.	Educational Values	2 hours
Health 362.	Health Education for Secondary Teachers	2 hours

*Teacher Clearance Office clearance is required before registration.

Subject-Matter Preparation of Secondary School Teachers

The University offers two approaches to certification. One consists of the traditional teaching major and teaching minor, while the other consists of a composite teaching major.

Prerequisites for Student Teaching: (1) A BYU cumulative grade-point average of 2.25 or better; (2) Completion of Tchr. Ed. 301 and 377 (or departmental equivalent); (3) Completion of at least 15 semester hours in the teaching major and 10 semester hours in the teaching minor, or 25 semester hours in the composite teaching major; and (4) Application for certification in the Teacher Clearance Office, 111 McKay.

Preparation of Teachers of the Core Curriculum. One pattern of curriculum organization in the public junior high schools is the core curriculum. The most common combination in the core curriculum is history or social studies and English. To increase a teacher's employability and preparation for junior high school teaching, it is therefore recommended that a major in history be combined with a minor in English, or a major in English with a minor in history.

Teaching Major and Teaching Minor. The teaching major and the teaching minor consists of designated courses in subjects taught in Utah high schools. The majors and minors are determined cooperatively by the subject-matter departments and the Department of Teacher Education. The following subjects are approved as teaching majors or minors (please note exceptions):

Agricultural Education (composite only)
**Art
Botany (to be used with zoology only)
Business Education (For majors, composite only. Minor offered for nonbusiness majors.)
**Chemistry
*Driver and Safety Education (minor only)
Earth Science (composite only)
*Economics
**English
**French
*Geography
*Geology
**German
**Health Education
**History
Home Economics Education (composite only)
Industrial Education (two options)
  1. General Shop (composite only)
  2. Unit Shop (composite only)
*Journalism (Communications)
*Latin
*Library Science (minor only)
**Mathematics
Music Education (composite only)
**Physical Education—Men
**Physical Education—Women
**Physics
*Political Science
*Psychology
Recreation Education (as part of composite only)
*Russian
*Sociology
**Spanish
Speech and Dramatic Arts
Zoology
  Major (minor in botany or chemistry or physical education only)
  Minor (major in botany or physical education only)

*If elected as a major or minor, the other subject must be one marked ** above.

Any proposed exceptions to an approved combination as listed above must be cleared with Teacher Clearance Office (111 McKay) and the departments involved.

Composite Teaching Major. A composite teaching major consists of work in three subjects in the same general field. One subject is designated as the dominant subject and the other two subjects are designated as the related subjects. For guidance in selecting and completing a composite teaching major, students must consult with the Teacher Clearance Office, Room 111 McKay, whose responsibility it is, under cooperative advisement with the academic departments, to administer composite majors.

The following general fields may be used for composite teaching majors. With only those exceptions noted, any subject in the general field may be chosen as the dominant.

Substitution of other subjects within the general field is not acceptable.

Business education:
  Accounting and economics
  Secretarial and office administration
Agricultural education
Art education
Earth science
Home economics education
Industrial education
Language arts:
  Dramatic arts and speech
  English
  Journalism
Mathematics and physical sciences:
  Chemistry
  Geology
  Mathematics
  Physics
Music education
Physical education and health education
  Dominant: Physical education or health education
  Related: Physical education
  Dance
  Health education
  Driver and safety education
  Recreation education
Social sciences:
  Geography, history, and one of the following:
    Economics
    Political science
    Psychology
    Sociology

Courses Required for Teaching Majors, Teaching Minors, and Composite Teaching Majors

Agricultural Education: (Composite major - 62 hours)

Plant Sciences (20 hours)
Agron. 151, 282.
Six hours from Hort. 102, 103, 412.
Six hours from Agron. 302, 305, 308, 340, 351, 455; Hort. 140, 471; Bot. 462.

Animal Sciences (15 hours)
An. Sci. 153, 207.
Electives to total 9 hours from the following courses: An. Sci. 121, 221, 161, 162A,B, 208, 225, 311, 312, 325, 335, 340, 345, 374.

Agricultural Economics (11 hours)
Agr. Econ. 112, 325, 410.

Farm Mechanics (16 hours)
16 hours from Indus. Tech. 125, 188, 218, 317, 341; Drafting 111.

Art:

57-Hour List (Composite major): Starred (*) courses must be completed before attempting upper-division work. Basic requirements: *120, *121, *122. General requirements: at least 8 hours selected from 301, 308, 310, 403, 405, 406, 407, 408.

Dominant and supporting fields: The student will complete 16 hours in one of the following three groups as a dominant field and 12 hours in each of the other two fields.

1. Crafts and sculpture (plastic and graphic): *250, *256, *263, 312, 350, 352, 356, 359, 362, 366.
2. Drawing and painting: *227, *233, 321, 322, 327, 333, 476, 580, 582.
3. Commercial art and interior design: *239, 315, 316, 317, 341, 342, 343, 444.

39-40-Hour List (Major): Starred (*) courses must be completed before attempting upper-division work except art history. Lower division: *120, *121, *122, *227, *233, *239, *250, *256, *263. Upper division: Six hours of art history: 321 or 322; 327 or 333; 312 or 342 or 341; 356 or 359; and four hours of electives chosen from 310 or any class listed above but not previously elected by the student.

20-Hour List (Minor): 120, 121, 122, 227 or 233, 239, 256, 263, 301.

Botany:

Prospective biology teachers must complete either a botany major and a zoology minor or a zoology major and a botany minor. Bot. 377 and 479 are required for certification of all prospective biology teachers.

28-29-Hour List (Major): Bot. 101, 110, 205, 321, 331, 376, 440, 450, 490; plus one of the following: 225, 335, 455, 460.

Required supporting courses for teaching majors:
Micro. 321
Math. 105, 106, or 111
Chem. 105, 106 or 101, 151

Recommended supporting courses for teaching majors:
Agron. 282
Geol. 111, 112
Chem. 151 or 351, 353
Stat. 221

17-Hour List (Botany minor): Bot. 105, 110, 440, and seven hours from the following courses: 205, 225, 321, 450, 460.

Business Education (Composite major—51 hours):

Accounting-Economics: The following courses will be required to satisfy the composite major requirements of business teachers majoring in business education with an accounting-economics emphasis:

Acctg. 201, 202, 301, 302.
Bus. Ed. 220, 300, 320.
Econ. 111 or 101, 112, 274, 353.

19 additional hours are to be selected from the following courses:

Acctg. 342, 356.
Bus. Ed. 203, 204, 206, 305, 370, 377, 485.
Bus. Mgt. 247, 340, 380, 381.
Comput. Sci. 201.
Econ. 241, 301, 302, 358.
Geog. 231.

Secretarial-Office Administration: The following courses will be required to satisfy the composite major requirement of business teachers majoring in business education with a stenography-office administration emphasis:

Acctg. 201, 202.
Bus. Ed. 113*, 203*, 204, 206*, 220, 300, 305, 311, 320, 370, 378.
Econ. 111 or 101.

11 additional hours are to be selected from the following courses:
Acctg. 342, 356.
Bus. Ed. 101, 111, 112, 411, 475, 485**.
Bus. Mgt. 205, 247, 380, 381.
Econ. 112, 241, 274, 353, 358.
Geog. 231.

*May be filled by examination.
**Taught only Fall Semester.

Note: The following are approved teaching minors for majors in fields other than business education:

17-Hour List (Secretarial minor, dominant or related subject): Bus. Ed. 113 or 311, 203, 206, 220, 320, 370.

18-Hour List (Office administration minor, dominant or related subject): Bus. Ed. 203, 204, 206, 220, 305, 320, 370.

Chemistry:

30-34-Hour List (Major): Either of the sequences 111, 112 or 105, 106, 223; 351, 352, 353 (2 hours); 461, 462, 464, 491, 594 (A and B); and either 514 or 521.

17-18-Hour List (Minor, dominant or related subject): Recommended sequence: 111, 112, 351, 352, 353. The following sequence is also acceptable: 105, 106, 151, 223.

Driver and Safety Education: (Minor or related field only) See course requirements listed under Health and Safety Education.

Earth Science (Composite major—56 hours): All students majoring in earth science, wishing to obtain a teacher's certificate, must take the 56-hour composite emphasis. These hours must include the following list of courses with a minimum in each group as follows: 20 hours of geology, 14 hours of physics, 8 hours in chemistry, 4 hours in mathematics, 5 hours in geography, 6 hours in zoology, and 5 hours in botany. Courses are to be selected from the following list:

Geology 111, 112, 311, 312, 313, 351, 352, 410, 460, 470, 480, 502**.
Physics 127, 137, and either 201-202 or 211, 212, 213, 214.
Chemistry 105, 106.
Mathematics 105, 106, 109, 111, 112, 113.
Geography 211, 401.
*Zoology 105, 315.
*Botany 110, 205.

*Prospective earth science teachers are required to take these courses. Of these 11 required hours, 6 hours should be included as fulfillment of the general education biological science requirement.

**Required for those wishing to obtain the teacher's certificate.

Economics:

30-Hour List (Major): Econ. 111, 112*, 274, 301, 302, and 12 hours selected from 353, 358, 361, 415, 430, 441, 452, 462, 471, 476, 488.

20-Hour List (Minor, dominant or related subject): 111, 112*, 274, 301, and 3 hours selected from 353, 358, 361, 415, 430, 441, 452, 471, 476.

***Note:** Econ. 101 may be substituted for either 111 or 112 by permission of the department chairman.

English:

35-Hour List (Major): 221 or 321, 251, 361 or 362, 371 or 372 or 373, 374 or 375, 382 or 582, 490; at least two courses selected from the following: Engl. 332, 333, 335, 336, 338, 341, 342, 343, 350, 355, 356, 359, 364, 366, 367, 380, 381, 383, 420, 450; and upper-division courses to total 35 hours. (Students are required to fill the B.A. requirements.)

Note: All English courses numbered in the 300, 400, and 500 levels may be counted toward the thirty-five hour total except Engl. 377 and 479, which count as teacher education courses; but only the following courses numbered below 300 may be counted: Engl. 215, 218, 221, 251.

20-Hour List (Minor, dominant or related subject): 221 or 321, 275, 360, 370, and electives in English to total 20 hours.

French:

32-Hour List (Major): 201, 301, 321, 322, 326, 411, 440, 445, 495, plus five hours chosen from 429 and courses on the 500 level.

20-Hour List (Minor): 201, 301, 321, 326, 440, plus three or more hours chosen from 211, 311, 429, 445.

Note 1: Teaching majors and minors who do not demonstrate adequate proficiency in speaking the language will be expected to enroll for French 211 and 311. All teaching majors and minors in French must take French 377. Majors are encouraged to take Linguistics 325.

Note 2: Classes up to and including French 301 may be waived for students who demonstrate proficiency in the foreign language. The department chairman will attest such proficiency in a written statement to the Teacher Clearance Office.

Geography:

32-Hour List (Major): Geog. 101, 102, 120, 211, 231, 450, 504, 598, and 11 additional hours to be selected from the following list **after consultation with a geography adviser:** Geog. 312, 401, 405, 441, 455, 460, 470, 475, 480, 501, 522, 533, 553.

20-Hour List (Minor, dominant or related subject): 101, 120, 211, 231, 450, 501, plus three elective hours from the major list above.

Geology:

30-Hour List (Major): 111, 112, 311, 351, 352, 502; and eight hours selected from 312, 313, 410; **or** eight hours selected from 306, 460, 480, 510.

20-Hour List (Minor, dominant or related subject): 111, 112, 501, 502; **and** eight hours selected from 306, 460, 480, 510.

Note: Refer to earth science within the Geology Section of the catalog for additional information.

German:

32-Hour List (Major): 301, 321, 322, 326, 377 (also counts as Tchr. Ed. 377), 429, 442, 443, 444, 445, 495.

20-Hour List (Minor): 211, 301, 311, 321, 326, 377, 440.

Note 1: Teaching majors who have not had foreign residence experience or who have not participated in the Semester in Salzburg Program are expected to enroll for German 211 and 311. Majors are also encouraged to take Linguistics 325 if possible.

Note 2: Classes up to and including German 301 may be waived for students who claim two years of residence experience in German-speaking countries and who demonstrate proficiency in third-year German courses. The department chairman will attest to such proficiency in a written statement to the Teacher Clearance Office.

Health and Safety Education:

32-Hour List (Major): Health 121, 325, 381, 451, 460, 521, 552; Food & Nutr. 115; Zool. 261, 262; Psych. 321; and 7 hours from the following courses: Health 501, 530, 561; Micro. 311; Sociol. 403, 580; Anthrop. 105; P.E. 344; Psych. 240.

28-Hour List (Dominant): Health 121, 325, 381, 460, 521; Zool. 261, 262; Food & Nutr. 115; Psych. 321; and at least 7 hours selected from the following: Health 451, 501, 530, 552, 561; Psych. 240; and Sociol. 403.

20-Hour List (Minor): Health 121, 381*, 460, 521, and 11 hours selected from the following courses: Health 325, 451, 501, 530, 552, 561; Food & Nutr. 115; Micro. 311; Psych. 240, 321.

*If required in student's major program, the health education minor will be 17 hours.

16-Hour List (Related): Health 121, 381, 460, 521, and 7 hours selected from the following courses: Health 325, 451, 501, 552, 561; Psych. 321; Food & Nutr. 115.

17-Hour List (Driver and safety education minor—related): Health 121, 325, 444, 445, 446, and 6 hours selected from the following courses: Health 401, 460, 521, 530; Psych. 321. Student's program **must** be approved by Health and Safety Education Department adviser.

History:

30-Hour List (Major): 100, 110, 111, 120, 121, 366, 388, and 400; plus sufficient hours from the list below to bring the total to 30 hours:

20-Hour List (Minor, dominant, or related subject): 110, 111, 120, 121, 366; plus sufficient hours from the list below to bring the total to twenty hours: 300, 302, 304, 307, 310, 311, 312, 313, 320, 322, 323, 326, 327, 329, 330, 331, 332, 333, 334, 335, 340, 341, 343, 344, 345, 346, 347, 349, 351, 352, 360, 362, 363, 364, 365, 370, 372, 375, 377, 378, 379, 381, 382, 384, 385, 388, 400, 410, 453, 454, 481, 482, 497, 498.

Home Economics Education (Composite teaching major):

55-56-Hour List: Home Ec. Ed. 101, 375, 489; CDFR 210, 322, 360 or Sociol. 360, 403; Nursing 425; Food & Nutr. 255, 264, 265, and 340 (or Food & Nutr. 115, 116, 264, 265, 310 or 370, 340); Hous. Home Mgt. 240, 335, 350, 351, and 370; Clo. & Text. 110, 165, 260; and electives 2-3 hours.*

21-Hour List (Professional education courses required of all students): Tchr. Ed. 301A, 310, 415, 402; Health 362; Home Ec. Ed. 377, 479.

*Please consult a Department of Home Economics Education adviser for selection of a suitable course. (Clo. & Text. 355, Tailoring, recommended)

Industrial Education (Composite teaching major):

General Shop Program:

This program is designed to prepare teachers for elementary, junior high school, and high school industrial arts positions. Two options are available to give the optimum training for the grade level to be taught. The student should follow either junior high school or high school emphasis as listed below, depending on his particular interest.

Core List: Drafting 111; Engr. Tech. 101*; Indus. Ed. 100, 129, 250, 260, 289, 405, 460, 470, 535**, 540**; Art 110*; Math. 121*; physics or chemistry, 3 hours*.

*Satisfies general education requirements.

**May be reserved for graduate credit if taken last semester before graduation.

Technical elective for depth sequences—28 semester hours:

Junior high school and senior high school general shop emphasis: The 28 hours of technical electives will be distributed equally among a minimum of 4 of the technical areas, thereby providing the balance of breadth and depth desirable for junior high school teachers. For this program technical classes will be selected from the following list:

Crafts: Art 312 and the balance from Indus. Ed. 160, 360, 493A,B,C,D; Art 256, 263, 366.

Drafting/Design: Art 312 and the balance from Drafting 210, 211, 256, 311, 410.

Electricity/Electronics: Indus. Ed. 242, 341; Engr. Tech. 102, 221, 228, 234.

Graphic Arts: Art 312 and the balance from Indus. Tech. 351, 452, 453; Indus. Ed. 493A,B,C,D; Art. 250.

Metals: Indus. Ed. 130, 139, 326; Indus. Tech. 325 and the balance from Indus. Tech. 120, 125, 231, 335, 337.

Woods: Indus. Ed. 105; Art 312; Indus. Tech. 210 and the balance from Indus. Ed. 119, 200; Indus. Tech. 211, 301, 337.

High school specialized emphasis: The 28 hours of technical electives will be selected from 2 areas with a minimum of 16 semester hours in each area. Credit earned in the related core program class may be counted as part of the 16-hour total. For this program, technical classes will be selected from the following list:

Crafts: Indus. Ed. 260, 360; Art. 312, and 7 hours selected from Indus. Ed. 160, 493A,B,C,D; Art 256, 263, 366.

Unit Shop Program:

This program provides considerable depth in one technical area with extensive supporting work to be taken in related areas of science and mathematics. It is designed to prepare teachers for high school unit shop programs and post high school technical programs. General requirements are as follows:

	Minimum Semester Credit Hours
1. A prescribed two-year technical program approved by the department.	64
2. Selected and approved advanced technology courses in the specialty area.	12
3. Additional general education and group requirements specified by the University for the baccalaureate degree.	26
4. Professional education courses.	22
6. Professional industrial education courses.	6
	130

Upon registration or when otherwise requested, each undergraduate student will be supplied with a suggested sequence of courses based upon his prior preparation and particular needs. Adjustments can be made as they become necessary during the program in consultation with an adviser.

Note: In order to be recommended for certification, students must have their programs, including adjustments, approved by the Teacher Clearance Office (111 McKay).

Journalism (Communications):

30-Hour List (Major): Commun. 101, 211, 230, 255, 307, 312, 323, 480; seven hours selected from Commun. 201, 331, 346, 351, 352, 365, 371, 427, 456, 491, 520, 528, 535, 550. (An internship, Commun. 495, may be substituted for Commun. 323.)

20-Hour List (Minor, dominant, or related subject): Commun. 101, 211, 312, 323, 480; four hours selected from Commun. 201, 230, 255, 307, 365. (Commun. 495, an internship, may be substituted for Commun. 323.)

Latin:

32-Hour List (Major): Latin 201, 301, 321, 322, 431, 432, 441, 442; Classical Civilization 341 and 442; and one course from Latin 429, 490, 491, 521, 561, or 562.

20-Hour List (Minor): Latin 201, 301, 321, 431 or 432, 441 or 442, 490; Classical Civilization 341.

Library Science:

16-Hour List (Minor): Lib. Sci. 355, 363, 370, 466; and two hours selected from the following: Lib. Sci. 569; Tchr. Ed. 340; Engl. 420; Hum. 101, 201 or 202; Speech & Dram. Arts 527.

Mathematics:

38-Hour List (Major): Math. 141, 142, 243, 244, 300, 301, 302, 332, 371, 541, and six hours selected from Math. 314, 372, 387, 411, 412, 434, 435, 436, 451, 508, 542, 551, 552, 585.

20-Hour List (Minor): Math. 141, 142, 243, or 112, 113, 214; 301, 302, and 371.

Music Education:

59-Hour List (Composite music education major): 103*, 165 (for voice specialty only), 191, 192, 193, 194, 202, 291, 292, 337, 363**, 364**, 367, 368, 370, 372, 374, 375, 378, 472, 481, 484*, 485*; complete six hours of ensemble, twelve hours of private instruction in the student's applied specialty, and pass a piano proficiency requirement equivalent to four semesters of piano before student teaching.

Note: Please refer to Department of Music requirements in this catalog for recital and ensemble requirements. *These courses are included in general education. **For students with instrumental specialties only. Those students taking voice as a specialty should take Music 566 instead of Music 363 and 364.

Physical Education - Men:

37½-38½-Hour List (Major): P.E. 180, 181, 182, 201 or 330, 231, 232, 233, 234, 235, 236, 237, 341, 344; two of the following: 370, 371, 372, 373, 374; 378, 413, 446, 464; 9 hours selected from the following: P.E. 250, 264, 265, 280, 314 (370, 371, 372, 373, 374)*; 406, 411, 449, 474, 547; Health 381; Rec. Ed. 570.

*Only two of the following can be included with the 9 hours, i.e., two within parentheses.

60-Hour List (Composite major): A composite major consists of 28 semester hours in physical education and 16 semester hours in each of two of these related fields: health education, driver and safety education, recreation, and dance.

Dominant (28 hours): Two of the following: P.E. 180, 181, 182; 201 or 330; 231, 232, 233, 234, 235, 236, 237; 341, 344; two of the following: P.E. 370, 371, 372, 373, 374; 378, 413, 446, 464.

Related (12 hours): Two of the following: P.E. 231, 232, 233, 234, 235, 236, 237; one of the following: P.E. 370, 371, 372, 373, 374; 201 or 330; 341, 344.

Note: The above 12-hour related courses may not be taken with the 28-hour dominant.

20-Hour List (Minor): P.E. 180; 181 or 182; 235; two of the following: 231, 232, 233, 234, 235, 236, 237; two of the following: 370, 371, 372, 373, 374; 201 or 330; 341, 344; one of the following: 314, 413, 446, 464.

Physical Education - Women:

Note: The following courses are prerequisites to required major courses and will help meet the requirements of the general education program: P.E. 181, 182, 187, 188; Zool. 105, 261, 262. Speech & Dram. Arts 102 and 121 are recommended by the state for certification and will fill the humanities requirements in the general education program. Health 381 is strongly recommended for those planning to teach in the secondary schools.

40-Hour List (Major): All women students majoring in physical education are to take the courses listed in the core program. In addition, they must choose either a sports or a dance emphasis.

Core Program: P.E. 241, 242, 243, 244, 286, 330, 341, 344, 378W, 388, 446; either 375 or 376; Health 121.

Sports Emphasis: Swimming (1 hour); P.E. 207, 245, 461, 472; any two of the following: Youth Leadership 378, P.E. 314 or 413, Health 381.

Dance Emphasis: P.E. 185, 186, 287, 288, 380, 383, 387, 389, 486.

60-Hour List (Composite major - certification): A composite major consists of 28 semester hours in physical education and 16 semester hours in each of two of these related fields: health education, driver and safety education, recreation, and dance.

Dominant (28 hours): P.E. 207, 241, 242, 243, 244, 245, 286, 330, 341, 344, 376, 378W, 446.

Sports Related (16 hours): P.E. 286, 330, 341, 376; three of the following: 241, 242, 243, 244, 245; and 1 hour of P.E. elective.

Dance Related (16 hours): P.E. 180, 183, 185, 186, 286, 287, 288, 380, 383, 387, 388, 389, 486.

Undergraduate Minor Requirements:

20-Hour List (Sports emphasis - certification): P.E. 286, 330, 341, 376; swimming (1 hour); Health 121 or Youth Leadership 378 if health major; four of the following: 241, 242, 243, 244, 245.

P.E. 378W must be successfully completed if a physical education-sports emphasis minor is to be assigned to student teaching in this minor.

20-Hour List (Dance emphasis - certification): P.E. 185, 186, 286*, 287, 288, 330, 380, 383, 387, 388, 389, 486; and one from the following: P.E. 241, 242, 243, 244, 245.

*Physical education-sports emphasis majors substitute P.E. 283, 284, or 285. P.E. 378W must be successfully completed if a physical education-dance emphasis minor is to be assigned to student teaching in this minor.

Physics: (See also B.A. and MA-3 programs in Physics Department)

25-Hour List (Major): Physics 121, 122, 221, 222 (or 211, 212, 213, 214, 315, 316), 300, 321, 322 (341 and 386 may be substituted for 322.)

17-Hour List (Minor, dominant or related subject): Physics 121, 122, 221, 222 (or 211, 212, 213, 214, 315, 316), 300.

Political Science:

30-Hour List (Major): Introductory courses required—6 (or 9) credit hours: Pol. Sci. 210 or 110; 250 or 150; 170. Intermediate course options required —15 (or 12) credit hours, selected from the following fields: one course from the field of American political systems, 310 or 311; one from public administration or public law, 330, 360, 361, or preferably Hist. 385; one from foreign political systems, 350, 355 or 359; one from international relations, 370 or 375 (note: if both 150 and 170 are taken, one course out of the previous five is recommended); and one from political philosophy, 402. **Research and writing** requirement, 3 credits, either 300 or 499.

Elective—intermediate and advanced courses, 6 credits; two courses in one of the fields chosen above, preferably the American, foreign, or international; and at least one of the courses from the 500 level (the other may be from those above): 510, 514, 520, 523, 525; 549, 551, 552, 553, 556, 557, 558; Hist. 384; 570, 571, 572, 573, 575, 576, 578, 580.

20-Hour List (Minor): Introductory courses and intermediate course options as indicated above.

Psychology:

30-Hour List (Major): Psych. 111; 321; 369, or 370 and 374; 378; 440; 491, 492, or 493, or 498; and three of the following courses: Psych. 360, 365, 450, 460; the remaining credit hours selected from the following: Psych. 211, 320, 322, 330, 336, 337, 350, 357, 360, 362, 365, 369, 370, 374, 445, 450, 454, 460, 478, 491, 492, 493, 495, 498.

20-Hour List (Minor, dominant, or related subject): Psych. 111, 321, 369, 440 or 450; the remaining credit hours selected from the following: Psych. 211, 240, 320, 322, 330, 336, 337, 350, 357, 360, 362, 365, 370, 374, 378, 440, 445, 450, 454, 460, 478, 491, 495.

Note: To complete professional education requirements, the students should complete Tchr. Ed. 402 and Psych. 321 rather than Tchr. Ed. 403.

Recreation Education: Physical education—for composite majors using recreation courses.

16-Hour List (Related subject): 301, 337, 371, 387, 388, 407, 505.

Russian:

31-Hour List (Major): 201, 211, 301, 311, 312, 321, 322, 326, 441, 442, 445.

20-Hour List (Minor): 201, 211, 301, 311, 321, 326, 445.

Note: It is strongly recommended that teaching majors take Ling. 325. All students who intend to qualify for a teaching certificate must take Russian 377.

Note: Classes up to and including Russian 301 may be waived for students who demonstrate proficiency in the foreign language. The department chairman will attest such proficiency in a written statement to the Teacher Clearance Office.

Sociology:

30-Hour List (Major): Sociol. 111, 112, 220 or 320, 350, 397, 403, 404, 405, 512, and the remaining hours selected from the following: Sociol. 125, 215, 316, 348, 357, 360, 362, 364, 380, 383, 386, 389, 410, 420, 423, 426, 446, 449, 460, 470, 480, 491.

20-Hour List (Minor, dominant or related subject): Sociol. 111, 112, 405, 512, and nine hours selected from the major list above.

Note: Sociol. 320 requires a prerequisite of Math. 105 or its equivalent.

Spanish:

32-Hour List (Major): Spanish 201, 301, 321, 322, 326, 441, 445, 451; plus 5 credit hours selected from the following: 311, 454, 458, 470, 485, 490, 491, 492, 495, 520, 521, 522, 556, 580, 581, 584, and Ling. 325.

20-Hour List (Minor): Spanish 201, 301, 321, 326, 441 or 451, 445.

Note: It is strongly recommended that teaching majors and minors who have not had foreign residence or participated in a semester abroad program take Spanish 311. All teaching majors and minors in Spanish must take Spanish 377.

Note: Classes up to and including Spanish 301 may be waived for students who demonstrate proficiency in the foreign language. The department chairman will attest such proficiency in a written statement to the Teacher Clearance Office.

Speech and Dramatic Arts:

Those students wishing to major or minor in speech and dramatic arts and obtain a secondary teaching certificate must complete the following courses for a major or minor:

34-Hour List (Major): Speech & Dram. Arts 101, 111, 115, 121, 123, 126, 305, 319, 320, 325, 371, 391*, 401, 460, 461, 524, 527.

19-20-Hour List (Minor, dominant, or related subjects): Speech & Dram. Arts 101 or 102, 111 or 305, 121, 319, 320, 325, or 527, 371, 391*, 460, 461.

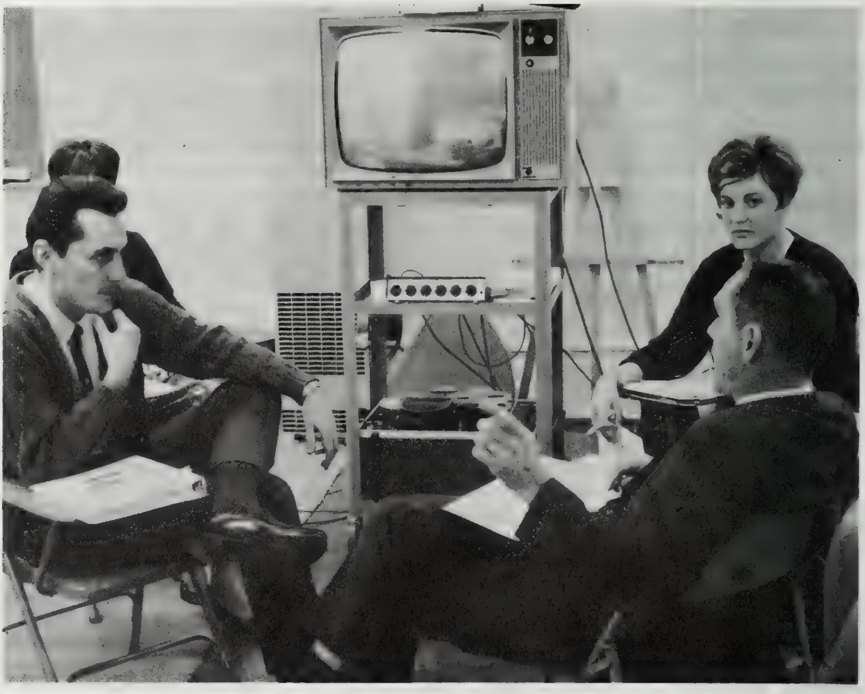
***Note:** Speech & Dram. Arts 391 is required of all majors and minors and is taught Spring Semester only.

Zoology:

36-37-Hour List (Major): 212, 213, 230, 363, 372, 376, 385, 451, 465; plus one of the following options: (a) 343, 345, 346, 347, or (b) 370, 373.

17-18-Hour List (Minor): 212, 230, 261, 262, or 263, 343 or 345, 346 or 347, Botany 105.

Note: Prospective biology teachers should complete either a zoology major and a botany or chemistry or physical education minor, or a botany major and a zoology minor. Zoology majors with a minor in chemistry are required to take Bot. 105 and 205 in place of Zool. 372. Zoology majors with a minor in physical education are required to take Bot. 105 in place of Zool. 372. It is **strongly** recommended that those students minoring in chemistry or physical education take Micro. 321, 322; Bot. 460 or Zool. 357; Geol. 103. Bot. 377 and 479 are required for certification of all prospective biology teachers.



Evaluation session as students view their teaching

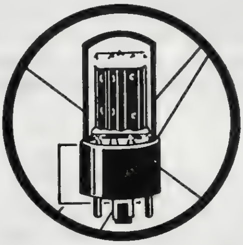
Technical Institute

Professors: Jeppsen (director, 120 Social Hall), McArthur, Smith.

Associate Professors: Dean, Monson.

Assistant Professors: Brown, Bruton, Fletcher, Hubbard, Jenkins, Knight, McKinnon, Park, Pett, Saunders, Smart, Tolman, J. Wright, N. Wright.

Instructors: Bloxham, Downey, Hansen, Long, Naegle, Pratt, Richardson, Schow.



Note: Instructors in the Technical Institute are drawn from a number of other departments of the University.

The Technical Institute, a major division of the College of Industrial and Technical Education offers, in cooperation with other departments on the University campus, associate-degree programs of higher education for young men and women to prepare them for employment in technical and preprofessional areas of business, industry, and government. These programs are particularly planned for those students desiring to spend only two years at the University; however, graduates of these programs may continue to work toward the baccalaureate degree.

The Technical Institute provides carefully balanced programs of approximately fifty percent general education courses and fifty percent specialized courses in the major area. These programs are designed to develop successful and productive citizens with a constructive philosophy of life.

Currently offered are the following associate-degree programs:

Associate degree in family living

Associate degree in law enforcement

Associate degree in nursing (R.N.)

Business for general business and secretarial technicians

Data Processing for business and industrial technicians

Engineering for chemical, civil, electrical, electronics, mechanical, and radio-television technicians

Genealogical Research for genealogical research technicians

General Agriculture for agricultural and farm management technicians

Industrial for drafting, graphic arts, building construction, tool design, and welding technicians

Library for librarians and library technicians

Photography for photographic and communication technicians

Piano for piano technicians in business and industry

Entrance Requirements

Requirements for admission to the Technical Institute of the College of Industrial and Technical Education are the same as those for admission to the University listed in the Student Academic Services Section of this catalog. Students enrolling in engineering technology might find it necessary in order to complete the required curriculum without loss of time to have successfully completed three years of high school English and two years of mathematics including algebra and geometry; also, it would be helpful to have completed one year of physical science, preferably physics. Students having deficiencies in these requirements should consult their program advisers for remedial courses.

Graduation

Upon completion of a two-year curriculum, the associate of science degree will be awarded at the regular University graduation exercises. Requirements for this degree include a minimum of 64 semester hours of credit, with a composite major of 30 credits or more and the following credits in general education: English, 6; American history, 3; health, 2; physical education, 1; religion, 2 per each semester in residence; and one course in each of the general group requirements. Of the total of 64 credits at least 20 must be in residence; a total of 12 credits may be taken by correspondence. However, fifteen semester hours of work completed on the University Provo campus and five semester hours at a BYU residence Center for Continuing Education as a matriculated student, will satisfy the residence requirement for the two-year program in the Technical Institute. A maximum of 10 "D" credits can be accepted, but a cumulative grade-point average of 2.0 or above is required. Students completing one of these programs may, if they desire, continue their work toward a baccalaureate degree.

ASSOCIATE-DEGREE PROGRAM IN FAMILY LIVING

Supervisor: Rita Barker

This two-year program leading to an associate degree is planned for students desiring to become more proficient in homemaking and family relationships. Knowledge gained regarding roles of men and women, husband-wife relationships, and responsibilities of parenthood will be of great value throughout one's life. Employment opportunities for graduates may be available in one or more of the specialized fields. For the departmental requirements, students may choose courses in one department or from all departments in the College of Family Living. Upon the completion of this program, students might find it profitable to transfer to a four-year program leading to the baccalaureate degree in family living.

General Education Requirements

	Hours
Engl. 111, 112	6
Hist. 170	3
Health 130	2
P.E.	1
Undergrad. relig. (including 121, 122)	8
Humanities	3
Biological science	3
Physical science	3
Social science	3
Total Semester Hours	32

Departmental Requirements

Courses may be selected from one or more of the following departments:

Child Development and Family Relationships
Clothing and Textiles
Food and Nutrition
Housing and Home Management

Total Semester Hours 32

ASSOCIATE-DEGREE PROGRAM IN LAW ENFORCEMENT

Supervisor: Charles T. Fletcher

This associate-degree program prepares students for law enforcement positions with federal, state, local, industrial-institutional agencies, and security sections. The program is designed to produce law enforcement personnel who possess high-level technical skills, an understanding of the forces at work in society, skill in human relations, and the ability to adapt to the rapid changes of modern living. In addition to the associate level, degrees are also offered in law enforcement at the bachelor's and master's level. Those qualifying for an associate degree may either enter the law enforcement field or continue their training toward these higher degrees.

First Year

	F	S
Law Enf. 101, 102	3	3
Pol. Sci. 110, 311	3	3
Sociol. 112	3	
Chem. 100 or Micro. 121		3
Engl. 111, 112	3	3
Health 130	2	
Hist. 170		3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Total Hours	16½	17½

Second Year

	F	S
Law Enf. 301, 302	3	3
Health 121, Speech & Dram. Arts 102	2	2
Psych. 111	3	
Geog. 211, or Physics 177, or Math. 121		2-3
Econ. 101, or Sociol. 111, or Psych. 350	3	
Physics 100		3
Hum., biol. sci.	3	3
Undergrad. relig.	2	2
P.E.	½	½
Total Hours	16½	15½-16½

ASSOCIATE-DEGREE PROGRAM IN NURSING

Ann Bruton, Director (LDS Health Service Center, Salt Lake City, Utah)
Adviser: Beulah Swensen

This two-year curriculum is based upon a philosophy of education for service in the field of technical nursing. It consists of carefully planned and selected fundamental experiences which students need to become beginning nursing practitioners. The program prepares graduates to give direct bedside care to patients and to take the State Board Test Pool Examination for licensure in Utah as registered nurses (R.N.).

First Year

	Su	F	S
Engl. 111	3		
Chem. 100	3		
Micro. 121	3		
Undergrad. Relig. 121	2		
P.E.	½		
Nurs. 223		7	
Zool. 261		3	
Zool. 262		2	
Food & Nutr. 115		2	
Undergrad. Relig. 122		2	
Nurs. 224			7
Psych. 111			3
Engl. 112			3
Undergrad. Relig. 211			2
	11½	16	15

Second Year

	F	S
Nurs. 225	10	
CDFR 210	3	
Sociol. 111	3	
Nurs. 226		10
Hist. 170		3
P.E.		½
Undergrad. Relig. 212		2
	16	15½

BUSINESS TECHNOLOGY

Office and secretarial workers and persons with general business training are in great demand in the employment market. Virtually every type of industry employs clerical workers since office work is such an integral part of every business. In addition to this widespread utilization of office workers there is a high turnover rate which further accentuates the need for new employees. Despite the use of more and more labor-saving equipment and increased efficiency in office procedure there will be a continued demand in the future for people with this type of training.

BUSINESS TECHNICIAN

Competent individuals with general business experience are in demand in business, industry, and government. The complexity of modern business and government has increased the need for personnel with a more general type of training. The following two-year associate-degree program prepares students for positions in various business organizations.

First Year	F	S
Acctg. 201, 202	3	3
Bus. Ed. 101, biol. sci.	2	3
Bus. Ed. 206, hum.	2	3
Math. 108, Health 130	4	2
Engl. 111, 112	3	3
P.E.	½	½
Undergrad. Relig. 121, 122	2	2
Total Hours	16½	16½

Second Year	F	S
Bus. Ed. 305, 320	3	3
Hist. 170, Bus. Mgt. 247	3	3
Phys. sci., Acctg. 342 or Bus. Mgt. 256	3	3
Econ. 111, 112	3	3
Comput. Sci. 201		2
Elective	2	
Undergrad. relig.	2	2
Total Hours	16	16

SECRETARIAL TECHNICIAN

Adviser: Karen Downey

Secretarial technician training is specific preparation toward a business career. Graduates of this program are employed as private secretaries, executive secretaries, receptionists, and stenographers. They are highly skilled in shorthand, typing, office-record management, office-machines operation, and stenographic procedures, and have a good background in general education. Students who have achieved the highest success in this program are high school graduates with a good background in English, social sciences, and general education.

The following associate-degree program is designed to prepare students in two years for efficient, profitable service in this field.

First Year	F	S
Bus. Ed. 112*, 113	4	4
Bus. Ed. 203*, 204	2	2
Bus. Ed. 206, hum.	2	3
Engl. 111, 112	3	3
Health 130, Hist. 170	2	3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Total Hours	15½	17½

Second Year	F	S
Bus. Ed. 311, 275	4	4
Bus. Ed. 220	3	
Bus. Ed. 480, Bus. Mgt. 380	1	2
Econ. 101 or 111, Acctg. 201	3	3
Phys. sci., biol. sci.	3	3
Electives		2
Undergrad. relig.	2	2
Total Hours	16	16

*Assumes beginning typewriting and beginning shorthand have been taken in high school. If not already completed, these beginning classes must be added to student's schedule as remedial courses which will add one summer session to the time required for graduation.

DATA PROCESSING TECHNICIAN

Supervisor: C. Edwin Dean

The use of digital computers is becoming more and more widespread in all types of business and accounting procedures, in mathematical analysis, and in control of many industrial and commercial processes.

Because of this widespread use of digital computers and a growing need for trained technicians in this field, students should be trained in the fundamentals of the operation of digital computers, the procedures for programming these machines, and application of these machines to all types of usage. The programming technician should be an important member of the computer team in developing, operating, and increasing the use of automation in industry and should find himself in a favorable position for desirable employment.

The following associate-degree program is designed to prepare students for successful entrance into occupations of this type.

First Year	F	S
Engr. Tech. 101, Comput. Sci. 201	3	2
Engl. 111, 112	3	3
Health 130	2	
Math. 111, 112	5	5
Econ. 101		3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Dev. assy.	½	½
Total Hours	16	16

Second Year	F	S
Comput. Sci. 333, 332	3	3
Stat. 221, 330	3	3
Math. 210, Speech & Dram. Arts 102	3	2
Acctg. 201, 202	3	3
Biol. sci., Comput. Sci. 351	3	3
Undergrad. relig., Hist. 170	2	3
Dev. assy.	½	½
Total Hours	17½	17½

ENGINEERING TECHNICIAN

Supervisor: Merrill J. Smart

Engineering technicians are a part of the American industry engineering team. This team involves engineers and scientists who formulate ideas and create new products and services; engineering technicians who are responsible for a large number of operational functions such as assembling, operating, testing, and the reporting of data on new products and services; and skilled workers who perform the routine services.

Since the engineering technician works between the engineer and the skilled worker, he must be familiar with both the hand and machine processes of the skilled worker and the basic scientific principles that are the tools of the engineer.

Students are prepared for placement in technical positions by receiving a basic background in the principles of physics and mathematics, communication of ideas, and general education. This is combined with depth of understanding and skill in the technical area which the students choose. These areas include chemical, civil, electrical, electronics, mechanical, and radio-television technology. The electronics engineering technology is accredited by the Engineers' Council for Professional Development.

CHEMICAL TECHNICIAN

Supervisor: Merrill J. Smart

Chemical technicians are employed in research, in developing new products—pharmaceuticals, insecticides, fabrics, plastics, metals, alloys, ceramics, fuels—and in finding new uses for present-day products. The chemical technician must be able to perform routine tests; use mathematical and chemical formulas; assemble and work with intricate laboratory equipment; make accurate measurements and computations; and may supervise the work of others engaged in these tasks. The associate-degree program outlined below prepares men and women for the many job opportunities offered by the chemical industry.

First Year	F	S
Chem. 105, 106	4	4
Math. 121, 122	3	3
Engl. 111, 112	3	3
Engr. Tech. 100, Physics 105	1	3
Hist. 170, Health 130	3	2
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Total Hours	16½	17½

Second Year

	F	S
Chem. 223	5	
Ch.E. 100	1	
Math. 223, 311	3	3
Indus. Tech. 335, Indus. Ed. 240	4	3
Drafting 111, Engr. Tech. 252	3	3
Hum., biol. sci.		5
Undergrad. relig.	2	2
Total Hours	18	16

CIVIL TECHNICIAN

Adviser: Kay F. Brown

Civil technicians must know how to prepare detailed plans and blueprints; estimate costs and materials needed; use the transit, level, and other surveying instruments; prepare maps and specifications; supervise construction work, and inspect jobs for conformance to specifications. They become members of the engineering team to aid the civil engineer in designing, constructing, and maintaining civil engineering projects. The following associate-degree program consists of basic courses arranged so that the students receive a maximum of practical instruction early in their major field of study.

First Year

	F	S
Engr. Tech. 100	1	
Math. 121, 122	3	3
Engl. 111, 112	3	3
Hist. 170		3
Drafting 111	3	
Physics 105, 106	3	3
Health 130		2
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Dev. assy.	½	½
Total Hours	16	17

Second Year

	F	S
Engr. Tech. 205, 206	3	3
Hum., Engr. Tech. 211	2	3
Engr. Tech. 212		2
Engr. Tech. 213		2
Engr. Tech. 216, 214	4	2
C.E. 211, 212	3	3
Math. 223	3	
Engr. Tech. 252		3
Undergrad. relig.	2	
Dev. assy.	½	½
Total Hours	17½	18½

ELECTRICAL TECHNICIAN

Adviser: Kay F. Brown

Electrical technicians are prepared to assist electrical engineers with the more detailed work of their profession. They work as electrical power technicians in power plant operation, power transmission, and distribution; manufacturing of electrical machinery; design and construction of commercial and industrial power systems; and electrical inspecting, estimating, and drafting. They find employment with electrical power generating and distributing companies, telephone companies, government installations, defense plants, and business and industrial concerns. The following associate-degree program provides students with a maximum of practical training to effectively fill the position of electrical technician.

First Year

	F	S
Engr. Tech. 100, 228	1	3
Engr. Tech. 101, 102	3	3
Math. 121, 122	3	3
Engl. 111, 112	3	3
Hist. 170, Physics 105	3	3
Health 130	2	
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Total Hours	17½	17½

Second Year

	F	S
Engr. Tech. 221, 222	3	3
Engr. Tech. 223, 224	3	3
Engr. Tech. 225, 226	2	2
Engr. Tech. 241, 242	3	3
Math. 223, Physics 106	3	3
Humanities	2	
Undergrad. relig.	2	2
Total Hours	18	16

ELECTRONICS ENGINEERING TECHNICIAN

(Accredited by the Engineers' Council for Professional Development)
Adviser: Merrill J. Smart

Electronics engineering technicians are prepared to assist engineers with practical and detailed work in communications equipment, computers, and navigational aids; instrumentation, industrial controls, and medical equipment; guided missiles, jets, and atomic power; radio, television, and aviation equipment; industrial process controls, and automatic manufacturing methods. This associate-degree program includes the study of electronic theory and circuits; electron tubes, transistors, servo-mechanisms; and radio and television fundamentals. It is designed to give basic technical training necessary to place the student in the role of a successful electronics engineering technician.

Upon the completion of this program, students might find it profitable to transfer to a four-year baccalaureate-degree program in electronics technology or in technical teacher education.

First Year	F	S
Engr. Tech. 100, 228	1	3
Engr. Tech. 101, 102	3	3
Math. 121, 122	3	3
Engl. 111, 112	3	3
Hist. 170, Physics 105	3	3
Humanities	2	
Undergrad. Relig. 121, 122	2	2
Dev. assy.	½	½
Total Hours	17½	17½

Second Year	F	S
Engr. Tech. 221, 222	3	3
Engr. Tech. 231, 232	4	4
Engr. Tech. 235, 234	4	2
Engr. Tech. 237		2
Math. 223, Physics 106	3	3
Undergrad. relig., Health 130	2	2
P.E.	½	½
Dev. assy.	½	½
Total Hours	17	17

MECHANICAL TECHNICIAN

Adviser: Kay F. Brown

The increase in automation in all types of industry today is creating more and more need for trained mechanical technicians to work in design, production, installation, and operation of machines, tools, and all types of metal devices and products. Technicians are also needed in design, construction, and operation of machines and plants that produce power from coal, oil, gas and nuclear fuels as well as the machines that use this power. The following associate-degree program is designed to give the student basic technical training to qualify him for the above positions.

First Year	F	S
Engr. Tech. 100, Physics 105	1	3
Indus. Ed. 130, Indus. Tech. 131	3	3
Math. 121, 122	3	3
Drafting 111	3	
Engl. 111, 112	3	3
Health 130, Hist. 170	2	3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Dev. assy.	½	½
Total Hours	18	18

Second Year	F	S
Engr. Tech. 205, 206	3	3
Engr. Tech. 241, 242	3	3
Physics 106, Engr. Tech. 216	3	4
Indus. Tech. 338, 231	3	3
Math. 223, Indus. Ed. 242	3	3
Undergrad. relig., hum.	2	2
Dev. assy.	½	½
Total Hours	17½	18½

RADIO-TELEVISION TECHNICIAN

Supervisor: Darrel J. Monson

The rapid growth in radio and television has created a need for many trained personnel in the area of telecommunication. Communication specialists and technicians are vitally needed to meet the expanding demands. Specialists in electronic technology trained in the maintenance and use of broadcasting equipment are sought widely throughout the country. The following curriculum is designed to give the training necessary to place the student in the role of a successful technician in the radio and television industry.

First Year	F	S
Engr. Tech. 100, 161	1	3
Engr. Tech. 101, 102	3	3
Math. 121, 122	3	3
Engl. 111, 112	3	3
Physics 105, 106	3	3
Commun. 101	2	
Undergrad. Relig. 121, 122	2	2
Dev. assy.	½	½
Total Hours	17½	17½

Second Year	F	S
Engr. Tech. 261, 262	3	3
Engr. Tech. 231, 232	4	4
Engr. Tech. 235, 234	4	2
Commun. 255		2
Math. 223, Hist. 170	3	3
Undergrad. relig.	2	
Health 130		2
P.E.	½	½
Dev. assy.	½	½
Total Hours	17	17

Note: Students desiring the audio technician option should substitute Physics 167 for Engr. Tech. 161; Engr. Tech. 271 and 272 for Engr. Tech. 261 and 262.

ENGINEERING TECHNOLOGY

Courses

100. Orientation in Technology. (1:1:0) F.S. Jeppsen

Introduction to the fields of industrial and engineering technology. Required of freshman students in technology.

101, 102. Basic Electricity. (3:2:3 ea.) F.S. (m) Brown, Holt

Elementary theory of electricity including direct and alternating current circuits and magnetism, basic theory of electron tubes and transistors.

161. Broadcasting Fundamentals. (3:3:0) S. (m) Prerequisite: completion of or concurrent registration in Engr. Tech. 102. Monson

Introduction to broadcasting fundamentals. Emphasis will be placed on system concepts utilized in broadcasting and the application of these systems to specific broadcasting situations and their general performance. In addition, the student will be prepared to pass the Third Class Radio-Telephone FCC license examination.

202. Contracts and Specifications. (2:2:0) S. (m)

Preparation and interpretation of engineering and construction contracts and specifications.

205, 206. Engineering Materials. (3:2:3 ea.) F.S. Prerequisite: Math. 122.

A survey of the materials used in engineering structures and machines. The physical properties of these materials, with emphasis on concrete, aggregates, wood, and steel. Laboratory testing of these materials for purposes of classification and field control.

208. Construction Methods and Equipment. (3:3:0) S. Prerequisites: Math. 121, Physics 105.

Construction methods and machinery including inspecting, estimating, and scheduling procedures.

211. Structural Technology. (3:2:3) S. Prerequisites: Math. 223, Engr. Tech. 216.
Introduction to the principles of analysis and design of timber, steel, and masonry structures.

212. Water Resources Technology. (2:1:3) S. Prerequisites: Math. 122, Physics 106.
Introduction to basic considerations related to water resources for both domestic and irrigation use. Measurement of flow and other elementary hydraulic principles. Laboratory tests used in water and sewage treatment.

213. Soil Testing Technology. (2:1:3) S. Prerequisites: Math. 122, Physics 106.
Introduction to the techniques of soil testing, including identification, classification, permeability, consolidation, and shear.

214. Highway Technology and Materials. (2:1:3) S. Prerequisites: Math. 122, Physics 106.
Highway transportation fundamentals. Construction and maintenance of highways and streets. Laboratory work in testing procedures.

216. Applied Mechanics. (4:3:3) F. Prerequisites: Math. 122, Physics 106.
Introduction to statics, strength of materials, and dynamics. Elementary principles of structures, stresses in bending and torsion, and basic concepts of kinematics and kinetics. Application to engineering problems.

221. Electrical Machines. (3:2:3) F. (m) Prerequisites: Math. 122, Physics 106, Engr. Tech. 102. Brown
Fundamentals of direct and alternating current machinery including motors, generators, transformers, their control and operation.

222. Electrical Control Systems. (3:2:3) S. (m) Prerequisite: Engr. Tech. 221. Brown
A continuation of the study of electrical machines with emphasis on industrial electronic control systems.

223, 224. Electrical Power. (3:2:3 ea.) F.S. (m) Prerequisites: Math. 122, Physics 106, Engr. Tech. 102.
Generation, transmission and distribution of electric power; electrical and mechanical analysis of power systems; lighting and fuse protection.

225, 226. Practical Wiring and Illumination. (2:2:0 ea.) F.S. Prerequisites: Math. 122, Physics 106, Engr. Tech. 102.
Design of low voltage power systems for residential, commercial, and industrial projects. Basic principles of illumination including layout and design of lighting systems for commercial buildings, roadways, and manufacturing plants.

228. Electrical Drawing. (3:2:3) S. Prerequisites: Engr. Tech. 101 and 102. Holt
Drafting techniques and drawing types used in the design, construction, installation, and maintenance of electronic equipment: military standards, schematics, chassis layout, and printed circuits.

231, 232. Electronics. (4:3:3: ea.) F.S. (m) Prerequisites: Math. 122, Physics 106, Engr. Tech. 102. Smart
Advanced study of vacuum tube circuits used in commercial and industrial systems. Units include rectifiers, amplifiers, oscillators, modulators, detectors, and automatic controls.

234. Electrical Trouble Shooting. (2:1:3) S. Prerequisites: Math. 122, Physics 106, Engr. Tech. 102. Smart
Maintenance and service of electronic equipment, trouble shooting techniques, and the use of electrical measuring and testing devices.

235. Transistors, Servos, and Magnetic Amplifiers. (4:3:3) F. Prerequisites: Math. 122, Physics 106, Engr. Tech. 102. Smart
The action of transistors and their operation in amplifiers, oscillators, multivibrators, switching and pulse-forming circuits.

237. Electronic Instrumentation. (2:2:0) S. Prerequisites: Math. 223, Physics 106, Engr. Tech. 102. Smart

The design and application of basic instrumentation to automated manufacturing and control processes.

241. Elementary Heat Power. (3:2:3) F. Prerequisites: Math. 122, Physics 106.

Basic laws of thermodynamics; properties of systems; properties of gases, liquids, and vapors; pressure-volume and temperature-entropy planes; fuels and combustion, and heat transfer.

242. Power Plants. (3:2:3) S. Prerequisites: Math. 122, Physics 106.

Classification, performance, capacity, and details of boilers and their auxiliaries and accessories; applications of steam power; work, energy, and efficiencies of engines and turbines; and hydroelectric power.

252. Computer Applications. (3:2:2) Prerequisite: Math. 223. Brown

Programming and application of computers to automation, graphics, production scheduling, critical path scheduling, and numerically controlled machines.

261. AM-FM Broadcasting Systems. (3:2:3) F. (m) Prerequisite: completion of, or concurrent registration in Engr. Tech. 231. Monson

Circuit fundamentals of audio and RF systems used in studio and transmitter design in AM and FM stations. In addition, the student will be prepared to pass the First Class Radio-Telephone FCC license examination. Laboratory work will include practical experience in the utilization of equipment.

262. Television Circuits and Practices. (3:2:3) S. (m) Prerequisite: completion of, or concurrent registration in Engr. Tech. 261. Monson

Fundamentals of television circuits including studio generating and control equipment, television cameras, film chains and video tape recorders. Laboratory work will include practical experience in the utilization of equipment.

271, 272. Audio Systems. (3:2:3 ea.) F.S. Prerequisite: Engr. Tech. 171. Monson

Techniques for testing audio components and systems and their use in radio, television, public address, and recording.

GENEALOGICAL RESEARCH TECHNICIAN

Supervisor: Norman Edgar Wright

Recent years have shown an important change of attitude toward genealogy as an accepted field of study on a university level. Not only is it a valuable study of man and the family unit but the broader implications include its benefit to the sociologist, the historian, and the individual who desires a liberal education.

In keeping with the emphasis on genealogy, Latter-day Saints should be well informed concerning scientific genealogical research and its relationships to salvation for the dead. The University is taking the lead in providing a sound program for the professional researcher, the Church member, and the general public who desire self-improvement. Competent researchers and teachers are in demand, not only in the Church but also in libraries, archives, societies, and family associations for professional work.

The following associate-degree program is designed to prepare genealogical research technicians for North American research. Similar programs can be outlined for British, Continental European, Latin-American, Asian, and Polynesian research. Students majoring in other fields might well consider genealogy as their minor, if approved by their major department.

Upon completion of this program, students might find it profitable to transfer to the four-year baccalaureate-degree program in genealogy.

First Year

	F	S
Undergrad. Relig. 121, 122	2	2
Undergrad. Relig. 261	2	
Geneal. 265, 266A	3	3
Geneal. 270, 271B	3	3
Engl. 111, 112	3	3
Biol. sci., phys. sci.	3	3
Lib. Sci. 111		1
Total Hours	16	15

Second Year

	F	S
Undergrad. relig.	2	
Geneal. 266B, 295	3	4
Geneal. 271A, 271C	3	3
Hist. 120, 121	3	3
Biol. sci. elec., Lib. Sci. 370	2	3
Hum., Health 130	3	2
P.E.	½	½
Dev. assy.	½	½
Total Hours	17	16

GENERAL AGRICULTURE TECHNICIAN

Supervisor: Robert L. Park

Agriculture is a highly competitive production field. The modern farmer or rancher, to show a profit, must understand agricultural economics and must know the latest methods of crop and livestock production and farm management.

For those who are unable to complete the four-year professional agriculture program, a two-year course is offered in basic agriculture. Should the student later decide to complete the four-year program, these courses may be counted toward the baccalaureate degree:

First Year

	F	S
An. Sci. 221, 208 or 161	3-4	
Health 130, An. Sci. 153	2	3
Bot. 101, Zool. 105	3	3
Hort. 102		3
Engl. 111, 112	3	3
Soc. sci., hum.	3	2
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Total Hours	16½-17½	16½

Second Year

	F	S
Agron. 151, 282	4	4
Agr. Econ. 325, 112	3	4
An. Sci. 207		3
Chem. 101	4	
Hist. 170	3	
Undergrad. relig.	2	2
Elective		3
Total Hours	16	16

INDUSTRIAL TECHNICIANS

Supervisor: Ross "J" McArthur

Our present industrial and technological economy requires industrial technicians as well as engineering technicians. Industrial technicians serve the industrial occupations in a manner similar to the way engineering technicians serve the engineering occupations.

Industrial technicians assist with technical details in industrial occupations. They use tools, instruments, and/or special devices to design, illustrate, fabricate, maintain, operate, and test objects, materials, or equipment; examine and evaluate plans, designs, and data; interpret work procedures and maintain harmonious relationships among groups of workers.

To meet the need for trained industrial technicians for industry, the following curricula are provided.

DRAFTING TECHNICIAN

Adviser: Wilford J. Tolman

This associate-degree program prepares students for positions as architectural or mechanical drafting technicians. Drafting technicians are generally in demand in all areas of scientific research and engineering development. Employment opportunities are available in industry, architects' offices, and governmental agencies.

First Year

	F	S
Drafting 111, 355	3	3
Math. 121, 122	3	3
Engl. 111, 112	3	3
Health 130, Hist. 170	2	3
Undergrad. Relig. 121, 122	2	2
Hum., biol. sci.	3	3
P.E.	½	½
Engr. Tech. 100	1	
Total Hours	17½	17½

Second Year
(Architectural Drafting Option—Not Prearchitecture)

	F	S
Drafting 256, 356	3	3
Indus Ed. 100, Indus. Tech. 210	3	3
Indus. Tech. 218, 341	2	2
Hous. Home Mgt. 330	3	
C.E. 211		3
Physics 105, Econ. 101	3	3
Undergrad. relig.	2	2
Total Hours	16	16

Second Year
(Mechanical Drafting Option)

	F	S
Drafting 210, 311	3	3
Drafting 211, 410	3	3
Indus. Tech. 131	3	3
Indus. Tech. 231, Drafting 411	3	2
Physics 105, Econ. 101	3	3
Undergrad. relig.	2	2
Total Hours	17	16

GRAPHIC ARTS TECHNICIAN

Supervisor: Ronda H. Jenkins

Printing is one of the major industries in our country today. It is vital to business and industrial organizations, civic and community organizations, and to the social, political, and economic life of our nation. Because of increasingly complex mechanized printing equipment in use today, there is a growing need for technically trained personnel in all areas of printing production and management. The Graphic Arts Technician Program, leading to the associate degree, prepares students for work in printing and publishing industries, governmental agencies, manufacturers of paper products, and private firms that do their own printing.

First Year

	F	S
Indus. Ed. 250, Indus. Tech. 351	3	3
Commun. 230, Physics 177	2	3
Art 110	2	
Drafting 111, Bus. Ed. 101	3	2
Engl. 111, 112	3	3
Health 130, Econ. 101	2	3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Total Hours	17½	16½

Second Year

	F	S
Commun. 365, Indus. Ed. 494	2	3
Commun. 366, biol. sci.	2	3
Indus. Tech. 452, 453	5	5
Math. 101, Chem. 100	3	4
Hist. 170	3	
Undergrad. relig.	2	2
Total Hours	17	17

LIGHT BUILDING CONSTRUCTION TECHNICIAN

Adviser: Max E. McKinnon

This associate-degree program is designed to prepare students to become successful building construction technicians. These technicians are trained in the construction of residential homes and small buildings, where new construction techniques and materials have made radical changes in the last decade. Initial employment for building construction technicians can be obtained as assistants to foremen and supervisors or as helpers to contractors and building specialists. Successful experience in this field leads to many opportunities, the more common of which include positions as building contractors, supervisors, estimators, inspectors, consultants, company managers, appraisers, and building materials salesmen.

The following two-year program will prepare students for service in this field:

First Year

	F	S
Indus. Ed. 105, 100	2	3
Indus. Ed. 139, Indus. Tech. 218	2	2
Indus. Tech. 325, Engr. Tech. 100	2	1
Math. 121, Hist. 170	3	3
Engl. 111, 112	3	3
Health 130, biol. sci.	2	3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Total Hours	16½	17½

Second Year

	F	S
Indus. Tech. 210, 211	3	2
Indus. Tech. 317		2
Indus. Tech. 341		2
Physics 105, Indus. Tech. 411	3	3
C.E. 211, Indus. Tech. 301	3	3
Indus. Tech. 410, Drafting 156	3	2
Hum., soc. sci.	3	2
Undergrad. relig.	2	2
Total Hours	17	18

TOOL DESIGN TECHNICIAN

Adviser: Keith L. Naegle

This associate-degree program offers comprehensive training for a career as a technician in tool design and construction. It is planned to give the student theoretical as well as practical education in design and use of jigs, fixtures, cutting tools, and other manufacturing equipment. Graduates are employed as junior tool designers, engineering assistants, laboratory technicians, mechanical draftsmen, inspectors, estimators, or mechanical equipment salesmen.

First Year

	F	S
Indus. Tech. 131, Physics 105	3	3
Drafting 111, 211	3	3
Math. 121, 122	3	3
Engr. Tech. 100, Health 130	1	2
Engl. 111, 112	3	3
Soc. sci., hum.	2	2
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Dev. assy.	½	½
Total Hours	18	19

Second Year

	F	S
Indus. Tech. 231, 335	3	4
Engr. Tech. 216, Indus. Tech. 333	4	3
Drafting 210, Indus. Tech. 242	3	3
Indus. Ed. 490		3
Physics 106, Indus. Tech. 325	3	2
Biol. sci., Hist. 170	2	3
Undergrad. relig.	2	
Dev. assy.	½	½
Total Hours	17½	18½

WELDING TECHNICIAN

Adviser: Lester Long

This associate-degree program offers comprehensive training for the preparation of welding technicians for industry. It consists of theory and practice in oxy-acetylene, electric arc, resistance, Heliarc, and submerged arc welding. In addition, the program provides training in machine tool processes, metallurgy, technical drawing, and related general education.

With the emphasis on prefabrication, and with the rapid changes occurring in industry, welding has become very technical, requiring the service of individuals with training beyond that of the craftsman. Some of the opportunities available to the welding technician are welding foreman, leadman, supervisor, analyzer, inspector, research specialist, and welding equipment salesman.

The following two-year program will prepare the student for efficient and profitable service as a welding technician.

First Year

	F	S
Indus. Tech. 120, 125	2	2
Indus. Tech. 325, 126	2	3
Engr. Tech. 100	1	
Drafting 111, Indus. Tech. 231	3	3
Engl. 111, 112	3	3
Math. 121, hum.	3	2
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Dev. assy.	½	½
Total Hours	17	16

Second Year

	F	S
Indus. Tech. 221, 226	5	5
Indus. Tech. 335, 227	4	3
Engr. Tech. 242	3	
Physics 105	3	
Hist. 170		3
Soc. sci., biol. sci.		4
Undergrad. relig., Health 130	2	2
Dev. assy.	½	½
Total Hours	17½	17½

LIBRARY TECHNICIAN

Supervisor: Hattie M. Knight

Many positions in modern-day libraries can best be filled by library technicians. These positions occur in circulation work, filing, cataloging, work with bibliographies, and reference work. Students completing the Library Technician Program are prepared to work in public, college, university, and industrial libraries, and in specialized research and information centers. Also, there is a trend toward adding library technicians to the school library staff and using trained people to work as media specialist assistants. The shortage of librarians is critical and likely to remain so for some time. To meet the need for library technicians, the following associate-degree curriculum is provided. Careful planning is necessary since only one of the Library Science 200 series courses is offered each semester.

First Year

	F	S
Lib. Sci. 111, 202	1	3
Lib. Sci. 201	3	
Engl. 111, 112	3	3
Bus. Ed. 101, 203	2	2
Health 130	2	
P.E.	½	½
Hum. 101 or 201		3
Soc. sci., biol. sci.	3	3
Undergrad. Relig. 121, 122	2	2
Total Hours	16½	16½

Second Year

	F	S
Lib. Sci. 211, 212	3	3
Lib. Sci. 213		1
Bus. Ed. 204, 220	2	3
Bus. Ed. 275	4	
Hist. 170	3	
Tchr. Ed. 340 or Engl. 420		2
Tchr. Ed. 406	2	
Phys. sci.		3
Undergrad. relig.	2	2
Elective		2
Total Hours	16	16

PHOTOGRAPHIC TECHNICIAN

Supervisor: Oliver R. Smith

The two-year associate-degree program in photographic technology is designed to prepare technicians for service on the staffs of newspapers, magazines, industrial departments, and commercial and portrait studios. Training is provided in both camera and darkroom techniques for still photography, along with supporting courses in communications, cinematography, advertising, design, and graphic arts.

First Year

	F	S
Commun. 366		2
Art 120, Commun. 101	3	2
Indus. Ed. 250, Indus. Tech. 453	3	5
Physics 177	3	
Engl. 111, 112	3	3
Health 130, Hist. 170	2	3
Undergrad. Relig. 121, 122	2	2
Total Hours	16	17

Second Year

	F	S
Commun. 211, 307	3	3
Commun. 365	2	
Commun. 367, 368	2	2
Commun. 371, 372	2	3
Sociol. sci., biol. sci.	3	3
Undergrad. relig.	2	2
P.E.	½	½
Electives	2	
Total Hours	16½	17½

PIANO TECHNICIAN

Supervisor: Lynn H. Hansen

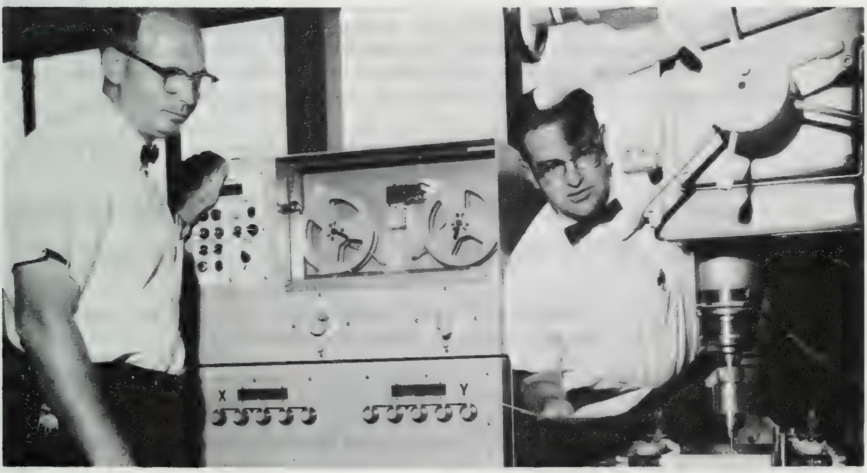
This associate-degree program provides special preparation for students desiring to become piano technicians. Graduates from this program can qualify for employment as technicians in piano factories, music companies, schools, and governmental agencies, as well as self-employment. Students desiring to enter this program must satisfactorily pass the auditory perception test and secure the approval of the program supervisor.

First Year

	F	S
Mus. 101, 164	3	2
Mus. 163, 175	3	3
Math. 121, 122	3	3
Engl. 111, 112	3	3
Health 130, Physics 167	2	3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Total Hours	16½	16½

Second Year

	F	S
Mus. 191, 193	2	2
Mus. 264, Hist. 170	2	3
Mus. 275, 276	3	4
Drafting 111, biol. sci.	3	3
Indus. Ed. 105, Soc. sci.	2	3
Acctg. 201	3	
Undergrad. relig.	2	2
Total Hours	17	17



Operating the numerically controlled milling machine in the Industrial Technology Department

Youth Leadership

Associate Professors: Packer (chairman, 105 RB), Stone.

Instructor: Olsen.

The Department of Youth Leadership provides a four-year program leading to a Bachelor of Science degree in youth leadership. A curriculum is offered that is designed to prepare men and women for careers as administrators and directors of agencies and organizations that work with and for youth. The youth leadership major may emphasize one of two available areas: One provides a defined series of courses with a specific scouting orientation designed to prepare men to become scout executives. The other emphasis combines a program of recommended courses from additional departments designed to meet requirements for professional leadership in national agencies such as the Boys Clubs of America, YMCA, YWCA, Girl Scouts of the USA, etc.; for governmental and private institutions, such as Job Corps and Boys' Ranches; and for instructional positions where public school system certification is not required.

A second major objective of the department is to provide college men and women with knowledge and experience in a variety of youth leadership areas so that they may better serve their church and community as volunteer youth leaders.

Degree in Youth Leadership

(Scout Executive Concentration)

For a Bachelor of Science degree in youth leadership a student may complete the following courses:

Youth Ldrship. 172, 173, 174, 301, 302, 305, 306, 332, 342, 375, 378, 410, 412, 491, 492 .... 30 hours

Equivalent volunteer experience in the subject matter of these courses will allow the student to select, in consultation with the adviser, alternate courses in business management, public relations, communications, speech, human relationships, sociology, and recreation.

Requirements for Youth Leadership Minor

(Scout Executive Concentration)

For a minor in youth leadership, 14 hours may be selected from the following courses:

Youth Ldrship. 172, 173, 174, 278, 332, 305, 306, 342, 412, 480, 490, 491.

Degree in Youth Leadership

(Multiple Agency Concentration)

Students who do not wish to concentrate on scout executive preparation may complete 35 hours of credit including 15 hours from selected Youth Leadership Department courses, four hours from physical education series 231 through 336 (for men), and four hours from series 241 through 245 (for women), and 20 hours from the following:

Bus. Mgt. 380, 381. Executive Lectures. (1:1:0)

Bus. Mgt. 321. Organizational Behavior and Administration. (3:3:0) (m)

Bus. Ed. 220. Business Communication. (3:3:0)

Bus. Ed. 305. Principles and Methods for Analyzing Office Operations. (3:3:0) (m)

Speech & Dram. Arts 102. Introduction to Public Speaking. (2:2:1)

Speech & Dram. Arts 305. Discussion and Conference Leadership. (2:2:1)

Speech & Dram. Arts 403. Persuasive Speaking. (2:2:0)

Speech & Dram. Arts 527. Storytelling. (2:2:0)

Sociol. 316. Social Control. (3:3:0)

Sociol. 357. Group Relations and Leadership. (3:3:0) (m)

Sociol. 383. Juvenile Delinquency. (2:2:0)

Sociol. 449. Community Organization, Action, Planning. (2:2:0) (m)

Rec. Ed. 387. Planning for Social Recreation. (2:2:0) (m)

Rec. Ed. 410. Problems and Trends in Outdoor Recreation. (2:2:0)

Rec. Ed. 503. Administration of School and Community Camps. (2:2:0)

Commun. 255. Introduction to Broadcasting. (2:2:1) (m)

Commun. 230. Introduction to Advertising. (2:2:0)

Commun. 535. Public Relations. (3:3:0) (m)

Psych. 321. Psychology of Adolescence. (3:3:0)

Psych. 450. Personality. (3:3:0)

Tchr. Ed. 324. Arts and Crafts for Elementary Teachers. (2:2:1)

Indus. Ed. 160. Recreational Handicrafts. (2:1:3) (m)

Indus. Ed. 260. Crafts. (3:2:4)

Courses

172. Cub Scout Leadership. (2:2:0) S. (m)
Designed to teach the organization, administration, and purpose of Cub Scouting as a basic experience of the American home. Lecture, demonstration, and laboratory participation.

173. Boy Scout Leadership. (2:2:0) F. (m)
Acquisition of techniques and skills designed to produce youth leadership and fellowship. Lecture, demonstration, and laboratory participation.

174. Explorer Leadership. (2:2:0) S. (m)
An examination of programming for the teen-ager. Lecture, demonstration, and laboratory participation.

278. Principles of Camping. (1:1:2) S.
For women only. Teaching techniques of camping skills required of YWMIA sports camp directors. Elementary outdoor cooking, sanitation, safety, and camp making. Successful completion of this course will also certify the student for Campcrafter Rating in the American Camping Association.

301. National Camp School. (1:Lecture and lab. in an organized camp situation for one full week) F.
Theory and application of principles of camp administration, camp aquatics, and camp program. Taught by National Council (Boy Scouts of America) at a selected local council camp. Recommended for youth leadership majors only.

302. Summer Camp Administration. (2-4:0:4-8 weeks) F.
Provides an actual administrative experience as a staff member of a local council summer camp. The course may be extended to additional summer employment for some students. Selection of campus arranged for by the department. Required of youth leadership majors only.

305, 306. Scouting Finance and Council Operating Committee Functions. (3:3:0 ea.) F.S. (m) Packer, Stone

Analysis of United Funds, independent campaigns, bequests, endowments, and trust funds and their applications. Organizational and operational practices of agencies on the administrative level are also emphasized.

332. Scouting Sponsors and Community Relationships. (3:3:0) F. (m) Packer, Stone

Examines the institutional acceptance of scouting as a major youth program in America and defines the relationships of the major religious and civic sponsors of scouting to the Boy Scouts of America.

344. Introduction to Youth Agencies and Youth Movements—National and International. (2:2:0) F.S.Su. Packer

Survey and analysis of youth programs from antiquity to the present. A focus on world impact through youth manipulation by government, church, and society from Nazi Germany to the present will be emphasized. The impact of the volunteer agency on American culture will be explored.

☐**Undergrad. Relig. 365. Applying Gospel Principles in Scouting.** (2:2:0)

375. Executive Work Scheduling and Program Planning. (2:2:0) S. Packer, Stone

Methods and practices of executive work scheduling for youth agency administrators. Public and group leadership demands are examined, and personal programs are developed to meet these demands.

378. Techniques of Outdoor Adventure. (2:2:3) F.S. Stone

Advanced outdoor skills and camp program planning for youth leaders. Campcrafter certification for the ACA is emphasized. Successful completion of this course will qualify the student as an Advanced Campcrafter or Tripcrafter in the American Camping Association.

380. Skills and Techniques of Land Survival. (2:2:1) F.S.Su. (m) Olsen, Packer

Designed to train the student to meet the adversity of primitive living without the use of perfected outdoor equipment and facilities. During the semester there will be four Saturday labs included in the course.

410. National and Local Council History and Development. (2:2:0) S. Packer, Stone

Traces the evolution of the program of scouting in America and defines the organization, functions, and services of the national council to the local council.

412. Professional Preview Experience. (3:0:10) F. (m)

Designed to develop readiness for full comprehension and administration of the operation of an agency district committee. A laboratory fee of $35 is charged payable upon application by the preview student. Students are expected to refrain from registering for evening classes during the semester. Opportunities for training will be correlated with actual participation with executives as they fulfill assignments in local areas.

480. Youth Rehabilitation through Outdoor Survival. (3-5:5 per week/3 weeks: 70 per week/3 weeks) F.S.Su. Olsen

A living experience course for youth leaders. Use of outdoor physical and emotional stress situations and self-initiative involvements in aiding youth to make interpersonal decisions and commitments of a moral and ethical nature. A 26-day wilderness survival experience is part of the course.

490. Field Activities. (1:1:1) F. (m) Packer

A study and laboratory experience in traditional council events designed to win public acclaim, enrich program experience, and develop financial support for the local council.

491. Youth Conference Planning and Administration. (2:2:1) S.Su. (m) Packer, Stone

Deals with planning and organization of youth conferences with laboratory participation through established BYU programs and ward, stake, and youth-agency conferences now being conducted.

492. Seminar in Research Problems and Program Trends. (1:1:0) F. Packer

Zoology and Entomology

Professors: Allen (chairman, 280 B), Allred, Chapman, Frost, Hayward, Nicholes, V. Tanner (emeritus), W. Tanner, Wood.

Associate Professors: Andersen, Heninger, Jaussi, Jorgensen, Murphy, Tipton, Turner.

Assistant Professors: Braithwaite, Simmons, White.

Instructors: Karr, Pritchett.

Special Instructor: Hales.

The Department of Zoology and Entomology offers courses designed to

1. Provide basic training for students who plan to obtain a bachelor's, master's, or doctor's degree in zoology and entomology.
2. Contribute toward the training of prospective teachers in the biological sciences.
3. Prepare students for admittance to professional schools in the medical sciences and allied fields.
4. Aid students majoring in other departments who need supporting work in the zoological sciences.
5. Meet general education requirements for all students seeking baccalaureate degrees.

Requirements for a Major

A student seeking a baccalaureate degree who elects to major in the Department of Zoology and Entomology will be assigned an adviser who will assist him in the organization of his entire program. His course of study must include (1) the general education requirements of the University, (2) the general departmental requirements, and (3) one of the optional sequences in zoology and entomology. Classes in this department used for a baccalaureate major must be passed with a grade no lower than C-.

General Departmental Requirements

All students majoring in zoology and entomology must complete Zool. 212, 213, 376, 385, and 465. Required courses or their equivalents from other departments include Math. 105, 106; Chem. 105, 106; Bot. 301 or 5 other hours in botany approved by the adviser.

Optional Sequences

Natural History: This option is intended for students interested in the systematics, ecology, and geographical distribution of animals. Such training is preparatory for careers in university teaching, research, fish and game management, museum services, biological surveys, and freshwater or marine biology as they apply to various state, federal, or private agencies concerned with the study and management of natural resources. Courses required for this option are Zool. 230, 343 or 345, 346 or 347, 363, 417, 451, and additional courses in zoology approved by the adviser.

Anatomy and Experimental Zoology: This option is designed for students interested in cell biology, anatomy, histology, physiology, genetics, and developmental biology. It is also the option under which preprofessional preparation is obtained for careers in medicine, dentistry, and allied fields. The following courses are required: Zool. 363, 370, 373, 567, plus an elective of 3 hours at the upper-division level approved by the adviser. The following courses, with all prerequisites as listed in the catalog, are also required: Micro. 331; Chem. 353; and Physics 202 or 214. Students interested in graduate work in cell biology, genetics, or molecular biology should also take physical chemistry.

Basic Medical Sciences: This option is designed for students who desire to complete only three years of college before entering a professional school yet plan to receive a baccalaureate degree from BYU by transfer of credit from a professional school. The general departmental requirements for students in this option may be modified to the extent that Zool. 465 may be deleted. In addition to the general education requirements of the University, the following are required: Math. 106 or 111, Physics 202 or 214, and Chem. 353, with all prerequisites as listed in the catalog. Satisfactory completion of the first year of an accredited dental or medical school is also required. A minimum of 96 semester hours must be earned before entering the professional school, and 20 hours of the credit earned at BYU must be upper division.

Entomology: This option is designed for students planning to work in insect taxonomy, morphology, natural history, and medical, agricultural, or other aspects of applied entomology. Career opportunities are available in teaching, research, industrial and governmental organizations, museums, quarantine inspection, insect control, and other special services. Required courses for this option are Zool. 230, 330, 332, 334 or 433, and six additional hours in zoology. The following supporting courses with all prerequisites as listed in the catalog are required: Chem. 353 or 384; Bot. 105, 110.

Secondary Education: Prospective biology teachers may major in zoology and minor in botany, chemistry, or physical education, or else major in botany and minor in zoology. Required courses for this major in addition to general departmental requirements in zoology are Zool. 230, 363, 372, and 451. In addition, those with an interest in natural history must also complete Zool. 343, 345, 346, and 347; those with an interest in experimental zoology must complete Zool. 370 and 373. It is strongly recommended that the following courses be taken: Micro. 321, 322; Geol. 103. Zoology majors with a minor in chemistry are required to take Bot. 105 and 205 in place of Zool. 372. Those minoring in physical education are required to take Bot. 105 in place of Zool. 372. It is strongly recommended that they take Micro. 321, 322; Bot. 460 or Zool. 357; Geol. 103.

Special Areas: Some students desire to study in an area not adequately covered by one of the above options. These areas might include such fields as marine biology, parasitology, limnology, etc. These students, after consultation with their adviser and with approval of the department chairman, may design a specialized option consisting of a minimum of 17 hours of zoology beyond the general departmental requirements, plus additional courses from related departments.

Requirements for a Minor

General Departmental Minor: Zool. 212, 213, plus eight additional hours. This minor **will not** satisfy the requirements for a teaching minor in secondary education.

Secondary Teaching Minor in Zoology: Zool. 212, 230, 261, 262 or 263, 343 or 345, 346 or 347, 372. This minor is to be used only by those students with a teaching major in botany or physical education. Physical education majors should substitute Bot. 105 in place of Zool. 372.

Directed Teaching for Junior College Credential Candidates

Candidates for the junior college teaching credential who need an experience in directed teaching to fulfill the requirements of Graduate Education 644 must meet the following minimum specifications to qualify for teaching in the Department of Zoology and Entomology:

a. Bachelor's degree in zoology.
b. At least one semester's experience in secondary student teaching, or as a teaching or laboratory assistant in the Department of Zoology and Entomology.
c. Approval of the staff of the Department of Zoology and Entomology.

Interested students should contact the junior college coordinator in the Department of Zoology and Entomology as early in their careers as possible. Application to teach should be submitted to the department no later than the first week of the semester preceding the one in which the candidate wishes to teach. The department will determine which course the student will teach.

Graduate Degrees

The Department of Zoology and Entomology offers work leading toward the Master of Science and Doctor of Philosophy degrees in zoology or in entomology. A student may pursue research work in specific areas such as anatomy, ecology, embryology, genetics, histology, morphology, natural history, parasitology, physiology, and taxonomy. Either one or two minors may be selected; one minor may be chosen from a department other than the Department of Zoology and Entomology. For further information consult the Graduate School Catalog.

Courses

105. Animal Biology. (3:3:2) F.S.Su. (G-BS m)
A principles course in animal biology which is basic to other courses in zoology and entomology. A student who has taken a rigorous, one-year course of high school biology may bypass this course as a prerequisite to many subsequent courses in this department.

212. Invertebrate Zoology. (4:3:4) F.S. (G-BS m) Prerequisite: Zool. 105.
Braithwaite
A basic course in the functional morphology, taxonomy, ecology and interrelationships of the invertebrates.

213. Vertebrate Zoology. (4:2:4) F.S.Su. (G-BS m) Prerequisite: see Zool. 105.
Frost, Hayward
A basic course in the structure, classification, and natural history of the vertebrates.

230. Introductory Entomology. (4:2:4) F.S. (m) Prerequisite: see Zool. 105.
Jorgensen
Structure, classification, and life histories of the classes of arthropods.

235. Insect Life. (3:2:2) S. (G-BS m) Prerequisite: one year of high school biology or Zool. 105 or Bot. 101. Tipton
A course in the fundamentals of insect biology for nonscience majors.

261. Elementary Human Physiology. (3:3:0) F.S.Su. (G-BS m) Prerequisites: see Zool. 105; concurrent registration in Zool. 262 or 263.
A basic course in tissue and organ structure and function.

262. Anatomy Laboratory. (2:0:4) F.S.Su. (G-BS m) Prerequisite: completion of or concurrent registration in Zool. 261.
Designed primarily for physical education and nursing students. Primary emphasis on human anatomy with physiology demonstrations.

263. Elementary Physiology Laboratory. (1:0:2) F.S.Su. (G-BS m) Prerequisite: completion of or concurrent registration in Zool. 261. Heninger, Jaussi
Designed primarily for students in medical technology, food and nutrition, etc. Basic experiments in physiology.

276. Heredity. (3:3:0) F.S.Su. (G-BS m) Prerequisite: see Zool. 105.
Principles of inheritance for nonscience majors (equivalent to Bot. 276).

312. Introduction to Marine Biology. (3:3:0) S. (m) Prerequisite: Zool. 212. Braithwaite
An introduction to marine life, the sea as an environment, and oceanographic research methods.

315. Natural History. (3:2:2) F.S. (G-BS m) Prerequisite: see Zool. 105. Allred, Pritchett
For nonbiology majors, especially elementary education majors.

330. Insect Morphology. (5:2:6) F. (m) Prerequisite: Zool. 230. Wood
An introduction to the principles of insect morphology. Both external and internal anatomy are studied.

332. Insect Classification. (4:1:6) S. (m) Prerequisite: Zool. 230. Wood
The basic principles of animal taxonomy with special emphasis on insects. Students are advised to consult the instructor and begin collecting insects prior to registration.

334. Economic Entomology. (3:2:2) S. (m) Prerequisite: see Zool. 105. (Offered 1968-69 and alternate years) Jorgensen
Life histories and control of insect pests, exclusive of medically important species.

343. Ichthyology. (2:1:2) F. (m) Prerequisite: see Zool. 105. Recommended: Zool. 213. White
The anatomy, classification, and ecology of the fishes.

345. Herpetology. (2:1:2) S. (m) Prerequisite: Zool. 105. Recommended: Zool. 213. W. Tanner
The classification, distribution, and natural history of reptiles and amphibians.

346. Ornithology. (2:1:2) S. (m) Prerequisite: see Zool. 105. Recommended: Zool. 213. Frost, Hayward
The classification, field and laboratory identification, and natural history of birds.

347. Mammalogy. (2:1:2) F. (m) Prerequisite: see Zool. 105. Recommended: Zool. 213. Hayward
The classification, field and laboratory identification, and natural history of mammals.

357. Wildlife Conservation. (2:2:0) F. (m) Frost
Conservation of natural resources particularly as they relate to animals.

363. Comparative Vertebrate Anatomy. (4:2:4) F.S. (m) Prerequisite: see Zool. 105. Recommended: Zool. 213. W. Tanner
A comparison of the body systems of the major vertebrate groups from the fishes through the mammals.

370. Vertebrate Histology. (3:2:3) F.S. (m) Prerequisite: Zool. 213 or 363.
Microscopic studies of the tissues and organs of vertebrates. Chapman

371. Histological Technique. (2:0:4) F. (m) Prerequisite: see Zool. 105.
Preparation of microscopic slides of tissues. Chapman

372. Biological Techniques. (1:0:3) F.S. (m) Frost
Designed to help prospective teachers and biologists in the techniques of preparing biological specimens and materials for demonstration or study.

373. Embryology. (4:2:6) F.S. (m) Prerequisite: Zool. 213. Recommended: Zool. 376. Allen
Development of the body systems of vertebrates with special emphasis on the frog, chick, and pig.

374. Pathology of Organs of Vision. (2:2:0) S.Su. (m) Prerequisite: Zool. 261. Chapman, Hales
Study of the structure, function, pathology, and hygiene of the eye.

376. Genetics. (3:3:1) S. (G-BS m) Prerequisites: see Zool. 105; Math. 105; 8 hrs. college chemistry. Turner
An introductory course designed for science majors (equivalent to Botany 376).

378. Genetics Laboratory. (1:0:3) S. (G-BS m) Prerequisite: completion of or concurrent registration in Zool. 367. Turner
A laboratory course to accompany Zool. 376.

385. History of Biology. (2:2:0) F.S. (m) Home Study also. Frost
The development of biological thought from the Grecian period to the present.

417. Parasitology. (4:3:3) F.S. (m) Prerequisite: see Zool. 105. Andersen
Study of organisms that are parasites of man and domestic animals.

433. Medical Entomology. (2:1:4) S. (m) (Offered 1968-69 and alternate years) Prerequisite: Zool. 230. Tipton
Arthropods that attack man and domestic animals and transmit pathogenic organisms.

451. Animal Ecology. (3:2:3) S. (m) Prerequisites: Zool. 212, 213, 230; Bot. 105 or 110. Murphy
The principles of ecology as applied particularly to animals in natural communities. Saturday field trips.

465. Animal Physiology. (4:4:3) F.S. (m) Prerequisites: Zool. 213 or 363 and 10 hours of chemistry. Heninger, Jaussi
The functions of the body systems of animals.

510. Zoological Literature. (2:1:2) F. Wood
An introduction to the literature of zoology designed to prepare the student for research and thesis writing.

517. Advanced Parasitology. (3:2:3) S. (Offered 1969-70 and alternate years) Prerequisite: Zool. 417. Andersen

520. Research Organization and Reporting. (1:1:0) F. Allred

531. Insect Physiology. (2:1:2) S. (Offered 1969-70 and alternate years)

533. Field Entomology. (2:0:4) Su. Prerequisite: Zool. 332. Wood

538. Immature Insects. (2:0:4) S. Wood

540. Aquatic Ecology. (3:2:3) F. Prerequisite: Zool. 451 or Bot. 450. Murphy

555. Principles of Zoogeography. (2:2:0) F. (Offered 1969-70 and alternate years) W. Tanner

561, 562. Advanced Vertebrate Anatomy. (3:1:4) F. Prerequisite: Zool. 363. Chapman, W. Tanner

563. Etiology and Educational Implications of Brain Injury. (3:2:2) F.Su. Prerequisite: consent of instructor. Chapman

564. Neurology. (2:1:2) S. Prerequisite: consent of instructor. Chapman

565. Endocrinology. (3:3:0) S. Prerequisite: Zool. 465 or equivalent. Heninger, Jaussi

566. Experimental Endocrinology. (2:0:6) S. Prerequisite: Zool. 465. Heninger, Jaussi

Selected experiments in endocrinology designed to familiarize the student with the techniques used in research.

567. Cell Physiology. (3:3:0) S. Prerequisites: see Zool. 105; organic chemistry.

Cell physiology with emphasis on a molecular and biochemical approach.

573. Experimental Embryology. (2:1:3) S. (Offered 1969-70 and alternate years) Prerequisite: Zool. 373. Allen

578. Radiation Biology. (2:2:0) F. (Offered 1969-70 and alternate years) Prerequisites: Chem. 106 or 112; Physics 202; Zool. 465. Recommended: Physics 303. Allen

579. Radiation Biology Laboratory. (2:0:6) F. (Offered 1969-70 and alternate years) Prerequisite: concurrent registration in Zool. 578. Allen

591. Special Problems in Zoology. (1-2:Arr.:Arr.) F.Su.

592. Special Problems in Zoology. (1-2:Arr.:Arr.) S.Su.

594A,B. Seminar in Genetics. (2:2:0 ea.) F. Prerequisite: Zool. 376 or Bot. 376. Turner

595. Seminar in Molecular Biology and Biophysics. (1:1:0) S. Prerequisite: consent of instructor.

610. Systematic Zoology. (2:1:2) S. Wood

612. Advanced Invertebrate Zoology I. (3:2:3) F. (Offered 1968-69 and alternate years) Prerequisite: Zool. 212 or consent of instructor. Braithwaite

The comprehensive biology of the Protozoa, Parazoa, Radiata, Acoelomata, and Pseudocoelomata.

613. Advanced Invertebrate Zoology II. (3:2:3) S. (Offered 1968-69 and alternate years) Prerequisite: Zool. 612 or consent of instructor. Braithwaite

The comprehensive biology of the Eucoelomata including the Protostomia, Deuterostomia, and Problematica. The course excludes the study of terrestrial arthropods.

615. Field Zoology. (5:0:40) Su.

Extended field trips each week. Participants will depart each Monday and return Friday. Field studies of animals will be made at a different locale each week.

624. Acarology. (3:1:6) F. (Offered 1969-70 and alternate years) Prerequisite: Zool. 212. Allred, Jorgensen

625. Advanced Topics in Medical Entomology. (2:0:4) S. Prerequisites: Zool. 332, 433. Allred, Tipton

628. Ecology of Animal Parasites. (2:2:0) S. (Offered 1969-70 and alternate years) Prerequisites: Zool. 417, 433, 451. Allred

635. Biological Control of Insects. (2:2:0) F. (Offered 1969-70 and alternate years) Prerequisites: Zool. 230, 451. Recommended: Zool. 334. Jorgensen

643. Advanced Ichthyology. (2:1:2) S. Prerequisite: Zool. 343. White

645. Advanced Herpetology. (2:1:2) S. Prerequisite: Zool. 345. W. Tanner

646. Advanced Topics in Ornithology. (2:2:0) F. Prerequisite: Zool. 346. Frost

647. Advanced Topics in Mammalogy. (2:2:0) S. Prerequisite: Zool. 347. Hayward

650. Animal Communities. (2:2:0) S.Su. Prerequisite: Zool. 451 or Bot. 450. Hayward, Murphy

662. Advanced Physiology. (2:1:2) F. Prerequisite: Zool. 465 or consent of instructor. Jaussi

663. Advanced Physiology. (2:1:3) S. Prerequisite: Zool. 465 or consent of instructor. Jaussi

670. Advanced Histology. (2:0:4) F. Prerequisite: Zool. 370. Chapman

680. Theoretical Zoology. (2:2:0) F. Prerequisite: consent of instructor. W. Tanner

690A,B. Advanced Topics in Animal Ecology. (2:2:0 ea.) F. Prerequisite: Zool. 451. Murphy

A seminar-discussion type course dealing with specific areas within the general framework of ecology, both terrestrial and aquatic.

691A,B,C,D. Research. (1-4:Arr.:Arr. ea.) F.S.Su.

695A,B. Seminar in Embryology. (2:2:0 ea.) S. Allen

696, 697. Graduate Seminar. (1:1:0 ea.) F.S.

699. Thesis for Master's Degree. (6-9: Arr.:Arr.) F.S.Su.

797A,B,C,D. Research. (2-4:Arr.:Arr. ea.) F.S.Su.

799. Dissertation for Ph.D. Degree. (Arr.) F.S.Su.

Class inspecting display of zoological specimens

Division of Continuing Education

Office of the Dean: Harold Glen Clark, dean.

Office of Community Education: R. Wayne Shute, coordinator.
  Department of Education Week Programs: D. Chris Poulos, chairman.
  Department of Off-Campus Lectures and Courses: Milton L. Sharp, chairman.
  Department of Travel Study: Robert C. Taylor, chairman.

Office of Campus Programs: Phileon B. Robinson, Jr., coordinator.
  Department of Evening Classes: Ilene Webb, chairman.
  Department of Home Study: E. Mack Palmer, chairman.
  Department of Special Courses and Conferences: Thomas A. James, chairman.

Office of Centers for Continuing Education: Richard H. Henstrom, coordinator.
  BYU-California Center for Continuing Education: Stanley A. Peterson, chairman.
  BYU-Ogden Center for Continuing Education: George S. Haslam, chairman.
  BYU-Ricks Center for Continuing Education: J. Kenneth Thatcher, chairman.
  BYU-Salt Lake Center for Continuing Education: Keith L. Smith, chairman.

GENERAL INFORMATION

The purpose of the Division of Continuing Education since its establishment in 1921 has been to provide educational programs and services of the regular University day school to adults who do not have opportunities for daytime study. The division services range from off-campus programs, lectures, correspondence study, and community services—both through the off-campus centers and extended programs in wide geographic areas—to formal on-campus classroom offerings, both credit and noncredit, extended and short-term in nature.

Many teachers of the courses scheduled through the Division of Continuing Education are selected from the regular BYU faculty. In addition a special part-time, off-campus faculty is available and is listed in the Special Instructors and Lecturers Section of this catalog.

WHO MAY ENROLL IN CONTINUING EDUCATION CLASSES

Requirements and Restrictions. Anyone having the proper background may register for noncredit courses. The purpose of continuing education is to serve the needs of adult students.

Credit classes are open to anyone nineteen years of age or a high school graduate who is in good standing at BYU and at the institution last attended. No student who has been suspended from a university or refused admission to BYU or any other university having comparable entrance standards will be allowed to register for credit courses. However, such students may be accepted as Home Study students.

Undergraduate students may not register for graduate classes.

Degree-seeking Student. Acceptance as a student in a continuing education course does not mean that the individual concerned has been accepted by Brigham Young University or any other university on a degree-seeking basis. **It is the**

responsibility of each student to gain admission to the university of his choice as a degree-seeking student through the normal procedures listed in the university catalog. At BYU this may be accomplished by contacting the Office of Admissions and Records. All credit received prior to the student's formal admission will then be evaluated.

Student Responsibility. The Division of Continuing Education at BYU takes no responsibility for the acceptance of a student's credit courses toward a degree or for accreditation purposes of any nature at any university. Clearing these courses for accreditation of any kind is the responsibility of the student. Such clearance should be made before the student enrolls in the course.

OFFICE OF COMMUNITY EDUCATION

Department of Education Week Programs

Education Week, formerly called Leadership Week, has been held annually on the BYU campus since 1922 and has gained nation-wide attention. For the past several years the program has been gradually moving into more and more locations throughout the western half of the United States. In 1967 the program was presented in 48 locations, extending to Calgary on the north; Colonia Juarez, Mexico, on the south; east as far as Washington, D.C.; and west along the Pacific coast. It is anticipated that the 1968 programs will be held in over 50 locations, with the addition of a southeastern circuit. It is projected that there will be eventual expansion to include all sections of the United States. Education Week is a three-day program involving six to ten faculty members, each presenting three hours of lecture on each of three days.

Campus Education Week. For many years adults from all walks of life have spent their vacations or other spare time attending the four-day festival of learning at Brigham Young University. All of the colleges of the University, through their faculties and off-campus consultants, provide selected educational experiences which help members of the Church and other patrons of the University to become better leaders in the professions, the home, the community, and the Church. Education Week is leadership training **for everyone,** since all in the home are leaders or potential leaders. A few of the areas of instruction are these: human relations; scientific advancements; the world of business; better teaching methods; literature, music, drama, and speech activities; teen-age problems; handicraft arts; and instruction in genealogy and the scriptures. Religious lectures from the General Authorities and others also add greatly to the interest and value of Education Week. Devotional assemblies, evening entertainments, tours, lectures, demonstrations, and workshops enhance the offering of this week. A special youth program is included for those 14-17 years of age.

Department of Off-Campus Lectures and Courses

The Department of Off-Campus Lectures and Courses provides services to the off-campus areas not already served by a BYU Center for Continuing Education.

Programs have been held in over 40 cities in the eastern United States and approximately 30 cities in the western United States. Also, programs have been held in Alaska, Canada, and Mexico.

Detailed information can be obtained by writing the Department of Off-Campus Lectures and Courses, Division of Continuing Education, Brigham Young University, Provo, Utah 84601.

Credit Courses. A request for a credit course is filled by the scheduling of a University teacher or an approved off-campus teacher, who travels to an off-campus location to conduct the course. Credit courses provide regular BYU credit and may be used to renew a teaching certificate, to apply toward a degree, or to broaden one's intellectual or spiritual horizons. (Ordinarily a two-semester-hour class will meet one evening each week for eleven weeks. A wide choice of courses is available; in fact, courses listed in the BYU catalog, subject to the approval of the BYU administration, may be scheduled off campus.)

Educational Television. BYU now has its own television station, which is on the air each day except Sunday. The station broadcasts on Channel 11. Courses are offered both on a credit and a noncredit basis. Seminars, special conferences, and various publications will be used in conjunction with these programs. The range of the new television station reaches throughout most of the state of Utah and in the not-too-distant future should reach in several of the surrounding states.

Education Day Programs. Education Day programs are Saturday programs patterned after Education Week. They are held in Utah communities and in Church population areas close enough that faculty can fly in on a weekend for a day of classes. These programs have a wide variety of subject material similar to the Education Week programs.

Lecture Circuits. An innovation in University offerings is "lecture circuits." Generally, two faculty members lecture for one night in Church-populated centers on a particular circuit. The expansion of this program has been very rapid. Thirty-six cities were served in 1967.

Department of Travel Study

BYU travel study programs are designed for students who wish to increase their knowledge and understanding of their own nation and of other lands and peoples through purposeful educational travel under the direction of the University. Those who participate must be properly enrolled. Adults off campus as well as individuals on campus may qualify as students in this program. Participants must adhere to standards of The Church of Jesus Christ of Latter-day Saints.

Of particular interest to on-campus students are the Semester Abroad Programs. Participation in these programs allows internationally minded students the opportunity of living and studying in world-famous cultural centers.

Semester in Salzburg, Austria. This program was founded in 1965. BYU students spend a full semester in this beautiful city, studying language, music, and the Austrian culture.

Semester in Grenoble, France. Originating in 1966, this program furnishes the student with the opportunity of personal association with the people, language, and culture of this centrally located, western European area.

Semester in Jerusalem, Israel. In order to keep abreast of foreign affairs in this vital area, BYU furnishes its students with the opportunity of living and studying in the very heart of the Holy Land. Experiences vary from living on an Israeli kibbutz to attendance at the Hebrew University. The department initiated its first program in 1968.

Further semester programs are in the planning stages and will be initiated in such areas as Spain and England.

Other study-residence programs are available in Mexico and Hawaii.

College credit is provided to program participants completing the study course as outlined by the academic department cosponsoring the travel study program.

OFFICE OF CAMPUS PROGRAMS

Department of Evening Classes

On weekday evenings, classes are conducted on campus in subjects of interest to adults who desire to improve or enrich their lives through part-time education.

Regular college credit equivalent to daytime classes is given for all evening classes. Anyone wishing to do so may take a class on a noncredit basis as an auditor.

Veterans are eligible to enroll under the G.I. Bill if they meet the eligibility requirements of the Veterans' Administration.

A class schedule of all classes is published each semester. These class schedules, giving detailed information about all procedures, are available free of charge upon request. Courses listed in the Evening Classes schedule which do not receive ten or more registrations may be cancelled. Students who have registered in cancelled classes will be notified and invited to join other classes or will be given a full refund.

At scheduled times during each registration period, trained counselors are available who will aid students in making educational and vocational plans or in working through related personal problems. There is no charge or obligation to the student for these services.

Day students may enroll in evening classes on their regular registration card by picking up class cards marked "Section 90." An extra fee of $3.00 per credit hour is charged the day school student for these classes.

Five dollars is charged for each change slip presented after the first week of the semester unless the action is caused by the cancellation of an evening class.

Each student registered through the Department of Evening Classes who discontinues attendance at class must use the proper procedure to withdraw by coming to 225 Herald R. Clark Building.

A prorated refund of tuition fees will be made to those who withdraw properly from evening classes during the first half of the semester. There is no refund for withdrawals occurring after that.

Students registering for evening classes only should register from 12:00 noon to 8:00 p.m. on the dates announced in current schedules.

Department of Home Study

The Division of Continuing Education offers home study courses to aid in widening the educational horizons of the many people who cannot take college work in residence.

What Is It? Home study is instruction with a personal touch.

Why Home Study? Home study is for those who cannot take courses in residence. This department provides courses required for entrance requirements, courses needed to complete high school or for teacher certification, courses for those serving their country in the armed forces or for veterans who wish to maintain their entitlement, for people working in industry who wish to acquire broader culture or to improve their skills, for professional people with a desire for continued intellectual and professional progress, and for those desirous of pursuing some course for personal development and interest.

Catalog. A Home Study catalog is available without charge to anyone who wishes detailed information on all courses, fees, and registration.

USAFI Personnel and Veterans. Brigham Young University has been approved to offer home study courses to the men and women in the armed forces and to veterans.

Credit. The number of credit hours of home study course work that will apply toward graduation requirements is limited to 24 semester hours.

Examinations. Examinations are required in all correspondence courses unless otherwise stipulated.

Department of Special Courses and Conferences

The Department of Special Courses and Conferences, organized to meet the academic needs and desires of many different age and educational background groups, provides flexible, varied credit and noncredit programs on the Brigham Young University campus. It offers courses either for specific interest groups or for the public at large.

Offerings, presented on a high academic level, are informative in nature yet informal and flexible as to content and presentation.

The instructional staff of this department is composed of members of the regular BYU faculty and other professional and academic specialists. Tuition fees vary according to the length of the course or the special expenses which may be involved. Persons representing groups which desire special courses or lectures on the BYU campus may have such courses initiated by contacting this department, located at 242 Herald R. Clark Building.

The Department of Special Courses and Conferences presents programs in the following categories:

Conferences. Programs which are conducted for professional groups in concentrated intensive sessions, usually over a period of one day to one week. These groups often hold business meetings in addition to considering academic materials.

Workshops and Clinics. Programs which involve a high degree of participation and activity by registrants and which include learning of professional and avocational skills.

Special Courses. Credit or noncredit courses which do not fall into the administrative areas of regular classes or of Evening Classes.

Lectures. Short discourses on various academic subjects, sometimes presented in a series or singly.

Seminars. Courses for groups of supervised students or professional persons doing research or advanced study.

OFFICE OF CENTERS FOR CONTINUING EDUCATION

Sensing the obligation of the Church University to provide educational opportunities in harmony with LDS standards for persons away from Provo, the Board of Trustees has established continuing education centers. These centers offer the same services of continuing education to the people of the center's area, including Education Week, as those offered to people who live near Brigham Young University. Any student expecting to earn a degree from BYU may do much of his work at a continuing education center, but at least 20 semester credit hours must be earned on the campus in Provo. (See section entitled "Graduation Requirements" under Student Academic Services in this catalog for residence requirements.)

BYU-Ricks Center for Continuing Education

The first center was established at Rexburg, Idaho, in July 1956. In January 1959 the center headquarters was moved from Ricks College and is now located at 225 First Street, Idaho Falls, Idaho. An office is maintained at Ricks College in Rexburg. The center provides off-campus courses, evening classes, summer classes, Education Week and special programs. On November 15, 1959, a branch of the Division of Communication Services of Brigham Young University was established at the BYU-Ricks Center in Rexburg. The influence of this center has been felt as far as Ontario, Oregon, on the west to Afton, Wyoming, on the east and throughout the state of Idaho. For further information call the center in Idaho Falls, area code 208 523-4682.

BYU-Ogden Center for Continuing Education

The Ogden Center was officially opened August 10, 1957, to provide the people in and near Ogden with some of the advantages enjoyed by those living close to the Brigham Young University campus. The center offers upper-division and graduate courses in most of the academic departments of the University. Informal courses, lectures, seminars, workshops, special programs organized for business, industry, and special groups are also a part of the educational offering. Several Education Day and Education Week programs are held each year.

In 1964 the University Department of Graduate Education authorized the center to offer a program of classes leading to the master's degree, with a major in six areas of instruction.

The center draws its faculty from Brigham Young University and professionally qualified persons living in the Ogden area. Local instructors are approved by the University administration in the same manner used in employing regular full-time faculty members. Further information may be obtained from the center at 555-24th Street, Ogden, Utah, or by calling 399-4455.

BYU-Salt Lake Center for Continuing Education

On January 1, 1959, the building formerly occupied by the McCune School of Music and Art, 200 North Main, was opened as the third BYU continuing education center. Its program follows the pattern established in other centers. Courses and programs are offered in religion, genealogy, speech, history, recreation, writing, arts, education and other fields. A nursing program and teacher certification program are presently available at the Salt Lake Center. Special programs are organized for industry, commerce, and Church groups when requested. A forum assembly program was added in the fall of 1959 with noted speakers participating. The Salt Lake Center has also been approved to offer selected courses leading toward the master's degree in education. Several Education Week and other programs are offered in the general Salt Lake area. Full information may be obtained by phoning Salt Lake City, 328-0325.

BYU-California Center for Continuing Education

The newest BYU continuing education center was established in 1959 with offices in Los Angeles. The central offices are now located at 3141 West Century Boulevard, Suite 9, Inglewood, California.

This center offers primarily noncredit classes, lectures, and seminars which annually enroll over 20,000 persons. The educational activities are usually held in LDS stake centers, and events are generally cosponsored by LDS stakes and wards. Sixty-one stakes throughout California and Northern Nevada actively participate in the California Center's activities.

Educational subjects range through religion, family life, behavioral sciences, humanities, arts, genealogy, teaching, and administration. Faculty members are local educators, BYU instructors, and other approved teachers. The center administrators receive suggestions from an advisory council of stake presidents and other groups in developing programs.

In addition to its educational programs the California Center serves as an information and counseling center for BYU patrons. For further information, phone area code 213 678-3903.

Administration and Faculty

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Dean of Admissions and Records	William R. Siddoway

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DEANS OF COLLEGES AND GRADUATE SCHOOL

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Education	Antone K. Romney
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Industrial and Technical Education	Ernest C. Jeppsen
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Physical and Engineering Sciences	Armin J. Hill
Physical Education	Milton F. Hartvigsen
Religious Instruction	Daniel H. Ludlow
Social Sciences	

DEANS AND DIRECTORS OF OTHER ACADEMIC PROGRAMS

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Zoology and Entomology	A. Lester Allen

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Technical Placement, Supervisor	R. Wayne Hansen
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University Mail Services, Chairman	Harold S. Hintze
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Student Activities Adviser	F. Curtis Wynder

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Institute of American Indian Studies and Research, Director	Paul E. Felt
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Construction Section, Construction Engineer	Paul G. Rasmussen
Security Officer	Swen C. Nielsen
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Special Student Problems, Adviser	Lucile Petty
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Booking University Attractions, Chairman	James H. Lawrence
Campus Tours and Conferences, Chairman	Collin Allan
Devotional Assemblies, Coordinator	Stephen R. Covey
Internal Relations	Stephen R. Covey
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Sports Information Officer	David Schulthess
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University Mail Answering Service, Chairman	Gary R. Bascom
University Program Bureau, Chairman	James H. Lawrence
University Relations Editors	Ernest L. Olson, Richard K. Grover, Herbert McLean
University Speakers Bureau, Chairman	J. LaVar Bateman

Councils

UNIVERSITY ADMINISTRATIVE COUNCIL

On matters of overall policy the following meet as an administrative council for the purpose of advising the President and resolving mutual problems: Ernest L. Wilkinson, President; Ben E. Lewis, vice-president for business affairs; Clyde D. Sandgren, vice-president and general counsel; Robert K. Thomas, assistant vice-president; Dean A. Peterson, administrative assistant to the President; Stephen R. Covey, assistant to the President for University relations; David B. Haight, assistant to the President; Raymond E. Beckham, director of University development; J. Elliot Cameron, dean of students; William R. Siddoway, dean of admissions and records.

DEANS' COUNCIL

The Deans' Council consists of the Administrative Council, all deans and the directors of schools and divisions, and two faculty representatives.

GRADUATE COUNCIL

The Graduate Council is empowered to act for the graduate faculty on all student petitions and on departmental requests for approval of faculty members for temporary assignments to graduate instruction and supervision. The council initiates proposals for policy and procedure regarding the graduate program.

Faculty

Emeriti

Beulah Ream Allen .... Professor Emeritus of Nursing (1961)
Diploma, Illinois Training School for Nurses, Cook County Hospital, Chicago, Illinois, 1922; B.A., University of Utah, 1928; M.D., University of California, 1932.

Mildred E. Allred .... Associate Professor Emeritus of Nursing (1954)
Diploma, Latter-day Saints Hospital, Salt Lake City, 1925; C.P.H.N., Oregon, 1941; B.S., Brigham Young University, 1943; M.N., University of Washington, 1960.

Owen L. Barnett .... Associate Professor Emeritus of Educational Administration (1950)
B.S., M.S., Brigham Young University, 1923, 1927.

Clarence S. Boyle .... Professor Emeritus of Marketing (1927)
B.S., Brigham Young University, 1924; M.S., Ed.D., New York University, 1926, 1941.

Newbern I. Butt .... Assistant Professor Emeritus of Library and Research (1922)
B.S., Utah State University, 1915; M.A., Brigham Young University, 1939.

Julia Caine .... Emeritus Teacher in Laboratory School (1941)
B.A., Brigham Young University; M.A., Colorado State University, 1950.

Jennie Campbell .... Associate Professor Emeritus of Education (1952)
B.S., Brigham Young University, 1928; M.A., Teachers College, Columbia University, 1937.

Clawson Y. Cannon, Sr. .... Professor Emeritus of Animal Science (1956)
B.S., Utah State University, 1913; M.S., Ph.D., Iowa State University, 1924, 1927.

Parley A. Christensen .... Professor Emeritus of English (1927)
B.S., Utah State University, 1914; M.A., Ph.D., Stanford University, 1925, 1927.

Benjamin F. Cummings .... Professor Emeritus of French (1920)
B.A., University of Utah, 1913.

Naomi Rich Earl .... Assistant Professor Emeritus of Library Science (1937)
B.S., Brigham Young University, 1931; Certificate in Library Science, Riverside Service School, 1932.

J. Orval Ellsworth .... Professor Emeritus of Religious Instruction (1954)
B.S., Utah State University, 1917; M.S., Ph.D., Cornell University, 1924, 1926.

Flora D. Fisher .... Assistant Professor Emeritus of Education (1933)
B.S., M.S., Brigham Young University, 1936, 1949.

Alvah Fitzgerald .... Instructor Emeritus in Religious Instruction (1956)
B.S., M.S., Brigham Young University, 1928, 1930.

Harvey Fletcher .... Professor Emeritus of Physics; Dean Emeritus of College of Physical and Engineering Sciences (1952)
B.S., Brigham Young University, 1907; Ph.D., Chicago University, 1911; hon. Sc.D., Columbia University, 1935; hon. Sc.D., Kenyon College, 1942; hon. Sc.D., Stevens Institute of Technology, 1942; hon. Sc.D., Case School of Applied Sciences, 1942; hon. Sc.D., University of Utah, 1944; hon. Sc.D., Brigham Young University, 1954.

William F. Hansen .... Assistant Professor Emeritus of Music (1924)
B.S., M.S., Brigham Young University, 1936, 1937.

Anna B. Hart .... Emeritus Teacher in Laboratory School (1939)
B.S., Utah State University, 1922; M.A., University of Southern California, 1933; M.Ed., George Peabody College for Teachers, 1949.

Bent F. Larsen .... Professor Emeritus of Art
B.A., Brigham Young University, 1921; M.A., University of Utah, 1922.

Don L. McConkie .... Emeritus Teacher in Laboratory School (1953)
B.S., M.S., Brigham Young University, 1927, 1942.

Ruth M. MacKay .... Instructor Emeritus of English (1962)
B.A., M.A., Brigham Young University, 1960, 1962.

Florence Jepperson Madsen .... Professor Emeritus of Music (1910)
B.M., M.M., Chicago Musical College, 1926, 1927; Doctor of Music, Boguslawski College of Music, 1932; B.A., Brigham Young University, 1934; M.M., hon. Doctor of Music, Chicago College of Music, 1933.

Franklin Madsen .... Professor Emeritus of Music (1920)
B.A., M.A., Brigham Young University, 1925, 1931; B.M., 1926; M.M., 1927; B.M.E., 1928; Mus. Doc., 1929; M.M.E., 1932; hon. Doctor of Music Education, Boguslawski College of Music, 1933; hon. Doctor of Music Education, Chicago College of Music, 1934.

Georgia Maeser .... Assistant Professor Emeritus of Education (1926)
B.S., Brigham Young University, 1928; M.A., Columbia University, 1938.

Sadie O. Morris .... Professor Emeritus of Food and Nutrition (1957)
B.S., M.S., Utah State University, 1921, 1922; Ph.D., Columbia University, 1933.

Kathryn B. Pardoe .... Assistant Professor Emeritus of Speech (1934)
B.A., Brigham Young University, 1934.

T. Earl Pardoe .... Professor Emeritus of Speech (1919)
B.A., Brigham Young University, 1925; M.A., University of Southern California, 1931; Ph.D., Louisiana State University, 1936.

Hugh W. Peterson .... Professor Emeritus of Chemistry (1927)
B.A., M.A., Brigham Young University, 1916, 1928; Ph.D., State University of Iowa, 1936.

M. Wilford Poulson .... Professor Emeritus of Psychology (1920)
B.A., Brigham Young University, 1914; M.A., University of Utah, 1919.

J. Wyley Sessions .... Professor Emeritus of Religious Philosophy (1939)
B.S., Utah State University, 1911; M.A., University of Idaho, 1928.

Margaret Summerhays .... Assistant Professor Emeritus of Music (1927)
Graduate, New England Conservatory of Music, 1916; B.A., Brigham Young University, 1936.

Orea B. Tanner .... Associate Professor Emeritus of English (1938)
B.A., Brigham Young University, 1932; M.A., Columbia University, 1953.

Vasco M. Tanner .... Professor Emeritus of Zoology and Entomology (1925)
B.A., Brigham Young University, 1915; M.A., University of Utah, 1920; Ph.D., Stanford University, 1925.

Louise Young .... Emeritus Teacher in Laboratory School (1964)
B.S., University of Utah, 1926.

Members of the Instructional and Administrative Staff

Melvin H. Aamodt .... Assistant Professor of Geography (1965)
B.A., Brigham Young University, 1958; M.A., University of Wisconsin, 1960.

Jesse Loraine Adams .... Instructor in Sociology (1967)
B.S., M.S., Brigham Young University, 1965, 1966.

George M. Addy .... Associate Professor of History (1957)
B.A., M.A., Brigham Young University, 1948, 1950; Ph.D., Duke University, 1957.

Lorna Call Alder .... Assistant Professor of Elementary Education (1949)
B.S., Brigham Young University, 1935; M.A., Columbia University, 1940.

Zane G. Alder .... Assistant Professor of English (1955)
B.S., M.S., Utah State University, 1948, 1956.

Thomas Glen Alexander .... Assistant Professor of History (1964)
B.S., M.S., Utah State University, 1960, 1961; Ph.D., University of California (Berkeley), 1965.

A. Lester Allen .... Professor of Zoology (1954)
B.A., Ph.D., University of California at Los Angeles, 1946, 1951.

Dell K. Allen .... Assitant Professor of Industrial Technology (1960)
B.S., Utah State University, 1954.

James B. Allen .... Associate Professor of History (1963)
B.S., Utah State University, 1954; M.A., Brigham Young University, 1956; Ph.D., University of Southern California, 1963.

Mark K. Allen .... Professor of Psychology (1946)
B.A., Brigham Young University, 1926; M.A., Ph.D., Stanford University, 1935, 1955.

Richard John Allen .... Assistant Professor of German (1966)
B.A., M.A., Brigham Young University, 1962, 1963.

Stephen L. Alley .... Professor of Educational Philosophy (1956)
B.S., M.S., University of Utah, 1947, 1951; Ed.D., Harvard University, 1958.

Grace H. Allphin .... Instructor in Library and Information Sciences (1956)
B.A., University of Utah, 1931; Certificate in Library Science, Brigham Young University, 1956.

Dorald M. Allred .... Professor of Zoology and Entomology (1956)
B.A., M.A., Brigham Young University, 1950, 1951; Ph.D., University of Utah, 1954.

G. Hugh Allred .... Assistant Professor of Child Development and Family Relationships (1966)
B.A., M.A., Brigham Young University, 1957, 1960; Ed.D., University of Oregon, 1966.

R. Chase Allred .... Associate Professor of Agronomy (1955)
B.S. Brigham Young University, 1948.; M.S., Kansas State College, 1949; Ph.D., University of Nebraska, 1952.

Ruel A. Allred .... Associate Professor of Teacher Education (1961)
B.S., M.S., Brigham Young University, 1954, 1958; Ed.D., University of Oregon, 1965.

Wallace Allred .... Instructor in Education (1956)
B.S., M.Ed., Brigham Young University, 1956, 1957; M.S., Oregon State University, 1964.

Philip E. Allsen .... Associate Professor of Physical Education for Men (1966)
B.S., Ricks College, 1955; M.S., Brigham Young University, 1960; Ed.D., University of Utah, 1965.

Mignon Alward .... Instructor in Nursing (1953)
B.S., University of Utah, 1946.

Ferron Lee Andersen .... Associate Professor of Zoology and Entomology (1966)
B.S., M.S., Utah State University, 1957, 1960; M.S., University of Illinois, 1962; Ph.D., Utah State University, 1963.

H. Verlan Andersen .... Professor of Accounting (1965)
B.S. Brigham Young University, 1940; LL.B., Stanford University, 1946; LL.M., Harvard University, 1948.

William Ralph Andersen .... Associate Professor of Botany (1966)
B.S., M.S., Utah State University, 1956, 1958; Ph.D., University of California, 1963.

Wilson K. Andersen .... Assistant Professor of Religious Instruction (1962)
B.S., University of Utah, 1949; M.Ed., Brigham Young University, 1957.

C. Dixon Anderson .... Associate Professor of Spanish (1956)
B.A., Brigham Young University, 1953; M.A., Ph.D., University of Texas, 1956, 1965.

Dallas Jasper Anderson .... Instructor in Art (1967)
B.A., St. Olaf College, 1956; M.A. (Avgangs Bevis), Danish Royal Academy of Fine Arts, 1967.

Keith P. Anderson .... Professor of Chemistry (1953)
B.A., Brigham Young University, 1946; Ph.D., Cornell University, 1950.

Marian F. Anderson .... Instructor in Child Development and Family Relationships (1962)
B.S., Brigham Young University, 1959; M.S., Oregon State University, 1961.

Richard L. Anderson .... Professor of History and Scripture (1955)
B.A., M.A., Brigham Young University, 1951, 1957; LL.B. Harvard University, 1954; Ph.D., University of California, 1962.

Hyrum L. Andrus .... Professor of Scripture (1956)
B.S., Ricks College, 1951; M.S., Brigham Young University, 1952; D.S.S., Syracuse University, 1955.

J. Roman Andrus .... Professor of Art and Education (1942)
B.S., M.S., Brigham Young University, 1942, 1943; Ed.D., University of Colorado, 1958; Art Students League, L. A. Art Institute.

Chris J. Apostol .... Instructor in Physical Education (1959)
B.A., Utah State University, 1950.

Nadine T. Ashby .... Instructor in Business Education (1960)
B.A., Brigham Young University, 1936; M.A., Colorado State College, 1959.

Josette B. Ashford .... Instructor in French (1968)
B.A., Brigham Young University, 1967.

H. Lowell Ashman .... Instructor in Political Science (1966)
B.A., M.A., Brigham Young University, 1962, 1966.

Clarence D. Ashton .... Associate Professor of Horticulture (1951)
B.S., Brigham Young University, 1929.

Peter Peay Ashworth .... Assistant Professor of Spanish (1966)
B.A., Brigham Young University, 1962; Ph.D., University of Oklahoma, 1967.

Hyrum J. Babcock .... Associate Professor of Elementary Education (1954)
B.A., M.A., Ph.D., University of California, 1939, 1940, 1953.

Milton V. Backman, Jr. .... Associate Professor of History of Religion (1960)
B.S., M.A., University of Utah, 1954, 1955; Ph.D., University of Pennsylvania, 1959.

Hugh Baird .... Associate Professor of Teacher Education (1963)
B.S., M.S., University of Utah, 1954, 1954; Ed.D., University of California at Berkeley, 1962.

Rey L. Baird .... Assistant Professor of Linguistics (1961)
B.A., University of Utah, 1960; M.A., Brigham Young University, 1962.

Joseph O. Baker .... Assistant Professor of German (1967)
B.A., University of Utah, 1964; Ph.D., Tulane University, 1968.

Bertrand L. Ball, Jr. .... Associate Professor of French (1962)
B.A., University of Redlands, 1953; M.S., Ph.D., University of Southern California, 1958, 1960.

VerDon W. Ballantyne .... Instructor in English (1963)
B.S., M.A., Brigham Young University, 1961, 1964.

Ariel S. Ballif .... Professor of Sociology; Foreign-Student Adviser (1938)
B.S., Brigham Young University, 1925; M.A., Ph.D., University of Southern California, 1937, 1945.

Jae R. Ballif .... Associate Professor of Physics (1962)
B.S., Brigham Young University, 1953; M.A., Ph.D., University of California at Los Angeles, 1961, 1962.

Richard Ballou .... Assistant Professor of Music (1951)
B.A., M.A., Brigham Young University, 1948, 1953.

Blauer L. Bangerter .... Professor of Physical Education (1953)
B.A., Brigham Young University, 1951; M.S., Ph.D., University of Utah, 1955, 1964.

Reid E. Bankhead .... Associate Professor of Religious Instruction (1949)
B.S., University of Utah, 1947; M.Th., Brigham Young University, 1949.

Willis M. Banks .... Instructor in General Curriculum (1966)
B.S., Brigham Young University, 1948; M.S., Colorado College, 1967.

Dee H. Barker .... Professor of Chemical Engineering (1959)
B.S., Ph.D., University of Utah, 1948, 1951.

Frances P. Barlow .... Assistant Professor of Child Development and Family Relationships (1954)
B.S., University of Utah, 1933; M.Ed., Utah State University, 1938.

Howard W. Barnes .... Assitant Professor of Business Management (1964)
B.A., Harvard College, 1955; M.B.A., University of Southern California, 1963.

J. Dean Barnett .... Professor of Physics (1958)
B.A. University of Utah, 1954; Ph.D., University of Utah, 1959.

Ivan J. Barrett .... Associate Professor of Religious Instruction (1953)
B.S., Utah State University, 1938; M.S., Brigham Young University, 1947.

Howard H. Barron .... Professor of Religious Education (1953)
B.S., M.S., Utah State University, 1943, 1950; Ed.D., University of Utah, 1953.

George S. Barrus .... Associate Professor of Communications (1967)
B.S., University of Utah, 1950; M.A., Brigham Young University, 1964.

Cliff S. Barton .... Professor of Civil Engineering (1959)
B.S., Utah State University, 1947; M.S., Ph.D., Rensselaer Polytechnic Institute, 1953, 1959.

James R. Barton .... Professor of Civil Engineering (1967)
B.S., University of New Mexico, 1944; M.S., University of Colorado, 1946; Ph.D., Colorado State University, 1958; Registered Engineer, Utah, 1949.

Beth S. Bastian .... Assistant Professor of Housing and Home Management (1964)
B.S., Utah State University, 1950; M.S., Kansas State College, 1955.

J. LaVar Bateman .... Professor of Speech (1949)
B.A., Brigham Young University, 1941; M.S., Ph.D., University of Wisconsin, 1947, 1950.

Merrill J. Bateman .... Associate Professor of Economics (1967)
B.S., University of Utah, 1960; Ph.D., Massachusetts Institute of Technology, 1965.

Edith Bartholomew Bauer .... Professor of Educational Psychology (1945)
B.A., M.A., Brigham Young University, 1930, 1946; Ph.D., University of California (Berkeley), 1956.

Jay V. Beck .... Professor of Microbiology (1951)
B.A., M.A., Brigham Young University, 1933, 1936; Ph.D., University of California (Berkeley), 1940.

Elouise M. Bell .... Instructor in English (1963)
B.A., University of Arizona, 1957; M.A., Brigham Young University, 1959.

R. Dermont Bell .... Professor of Business Education (1957)
B.S., M.S., Brigham Young University, 1955, 1956; Ph.D., University of Southern California, 1960.

Parley L. Belnap .... Assistant Professor of Music (1965)
B.A., M.A., Brigham Young University, 1950, 1956; Premier Prix, Royal Flemish Conservatory, Belgium, 1960; Diplome Superieur, Royal Flemish Conservatory, Belgium, 1964.

W. Dwayne Belt .... Professor of Secondary Education (1961)
B.A., Brigham Young University, 1952; M.A., Ed.D., Colorado State College, 1958, 1961.

George C. Bennion .... Instructor in English (1961)
B.A., Brigham Young University, 1949.

Marion Bennion .... Professor of Food and Nutrition (1952)
B.S., Utah State University, 1947; M.S., Teachers College, Columbia University, 1949; Ph.D., University of Wisconsin, 1956.

Robert C. Bennion .... Associate Professor of Psychology (1961)
B.A., Brigham Young University, 1956; M.A., Ph.D., Ohio State University, 1959, 1961.

Anthony I. Bentley, Jr. .... Assistant Professor of Religious Instruction (1954)
B.A., Brigham Young University, 1930; M.A., University of Southern California, 1941.

Dale L. Berge .... Instructor in Archaeology (1967)
B.S., M.A., Brigham Young University, 1961, 1964; M.A., University of Arizona, 1967.

John T. Bernhard .... Dean of the College of Social Sciences;
Professor of Political Science (1959)
B.S., Utah State University, 1941; M.A., Ph.D., University of California at Los Angeles, 1949, 1951.

LaMar C. Berrett .... Associate Professor of Religious Education (1963)
B.S., University of Utah, 1952; M.S., Ed.D., Brigham Young University, 1960, 1963.

Paul O. Berrett .... Associate Professor of Electrical Engineering (1964)
B.S., University of Utah, 1953; M.S., University of Southern California, 1955; Ph.D., University of Utah, 1965.

Max J. Berryessa .... Professor of Elementary Education (1948)
B.S., M.S., Brigham Young University, 1948, 1949; Ed.D., Stanford University, 1959.

Brian S. Best .... Assistant Professor of English (1960)
B.S., M.A., Brigham Young University, 1958, 1962.

Larry Grant Best .... Instructor in English (1965)
B.A., M.A., Brigham Young University, 1963, 1966.

Myron G. Best .... Associate Professor of Geology (1965)
B.S., University of Utah, 1957; Ph.D., University of California at Berkeley, 1961.

Constance Jeanne Bethers .... Assistant Professor of Nursing (1966)
M.Ed., Columbia University, 1965.

Gary Boyd Beus .... Assistant Professor of Statistics (1967)
B.A., Brigham Young University, 1962; M.S., Virginia Polytechnic Institute, 1965.

James L. Bills .... Associate Professor of Chemistry (1962)
B.S., University of Utah, 1958; Ph.D., Massachusetts Institute of Technology, 1963.

Donna Bird .... Instructor in Home Economics Education (1966)
B.S., Brigham Young University, 1959.

Russell Harold Bishop .... Assistant Professor of Teacher Education (1966)
B.A., M.A., University of Utah, 1954, 1964; Ph.D., University of Oregon, 1966.

Harold J. Bissell .... Professor of Geology (1938)
B.S., Brigham Young University, 1934; M.S., Ph.D., University of Iowa, 1936, 1948.

Angus U. Blackham .... Professor of Chemistry (1952)
B.A., Brigham Young University, 1949; M.A., Ph.D., University of Cincinnati, 1950, 1952.

Robert W. Blair .... Associate Professor of Linguistics (1959)
B.A., M.A., Brigham Young University, 1955, 1957; Ph.D., Indiana University, 1964.

Reed H. Blake .... Assistant Professor of Sociology (1967)
B.S., M.S., Brigham Young University, 1957, 1959.

Mae Blanch .... Assistant Professor of English (1958)
B.A., Brigham Young University, 1950; Ph.D., University of Colorado, 1966.

Vestal Ben Bloxham .... Instructor in Genealogy (1967)
B.S., Brigham Young University, 1965.

Robert R. Boren .... Assistant Professor of Speech (1961)
B.A., M.A., Brigham Young University, 1958, 1960; Ph.D., Purdue University, 1965.

Walter D. Bowen .... Assistant Professor of Religious Education (1964)
B.S., M.S., Ed.D., Brigham Young University, 1957, 1958, 1965.

Catherine Bowles .... Clinical Instructor in Education (1960)
B.S., M.Ed., Brigham Young University, 1936, 1953.

Lawrence S. Bowman .... Assistant Professor of Electrical Engineering (1967)
B.S., M.S., Ph.D., University of Utah, 1957, 1961, 1964.

Glen L. Boyer .... Instructor in Business Education (1967)
B.S., Utah State University, 1963; M.S., University of North Dakota, 1966.

Reed H. Bradford .... Professor of Sociology (1946)
B.A., Brigham Young University, 1937; M.A., Louisiana State University, 1939; M.A., Ph.D., Harvard University, 1941, 1946.

Rulon L. Bradley .... Professor of Communications (1965)
B.A., Brigham Young University, 1947; M.S., Ph.D., University of Utah, 1954, 1962.

Jerald S. Bradshaw .... Assistant Professor of Chemistry (1966)
B.S., University of Utah, 1955; Ph.D., University of California at Los Angeles, 1963.

Merrill K. Bradshaw .... Associate Professor of Music (1957)
B.A., M.A., Brigham Young University, 1954, 1955; M.Mus., University of Illinois, 1956; D.Mus.A., University of Illinois, 1962.

Willard H. Bradshaw .... Associate Professor of Microbiology (1961)
B.S., M.S., Brigham Young University, 1952, 1953; Ph.D., University of California, 1957.

Marion B. Brady .... Associate Professor of English (1965)
B.A., M.A., Brigham Young University, 1950, 1951; Ph.D., Universtiy of Utah, 1966.

Lee F. Braithwaite .... Assistant Professor of Zoology and Entomology (1962)
B.S., M.S., Brigham Young University, 1959, 1962.

Floyd E. Breinholt .... Associate Professor of Art (1961)
B.S., M.E., Brigham Young University, 1937, 1953.

Willis H. Brimhall .... Associate Professor of Geology (1956)
B.S., Brigham Young University, 1949; M.S., University of Arizona, 1951; B.E.S., Brigham Young University, 1960; Ph.D., Rice University, 1966.

Ralph A. Britsch .... Professor of English (1938)
B.A., M.A., Brigham Young University, 1933, 1951.

Ralph Lanier Britsch .... Instructor in History (1966)
B.A., M.A., Brigham Young University, 1963, 1964; Ph.D., Claremont Graduate School, 1968.

Todd Adam Britsch .... Assistant Professor of German and Humanities (1966)
B.A., Brigham Young University, 1962; M.A., Ph.D., Florida State University, 1964, 1966.

H. Smith Broadbent .... Professor of Chemistry (1946)
B.S., Brigham Young University, 1942; Ph.D., Iowa State University, 1946.

J. Richard Brown .... Assistant Professor of Elementary Education (1956)
B.S., M.Ed., Brigham Young University, 1949, 1956.

Jack V. Brown .... Assistant Professor of Spanish (1964)
B.A., M.A., Brigham Young University, 1957, 1960.

Kay Fredrick Brown .... Assistant Professor of Electronics Engineering Technology (1967)
B.S., M.S., University of California (Los Angeles), 1959, 1964.

Thomas H. Brown .... Professor of French (1959)
B.A., Brigham Young University, 1955; M.A., Ph.D., University of Illinois, 1957, 1960.

Ann Bruton .... Assistant Professor of Associate-Degree Nursing; Director of Associate-Degree Nursing Program (1966)
B.S., University of Utah, 1960; M.A., New York University, 1966.

A/1C Garth O. Bryant .... Instructor in Aerospace Studies (1964)

Loren C. Bryner .... Professor of Chemistry (1935)
B.S., M.S., Brigham Young University, 1928, 1930; Ph.D., Iowa State University, 1934.

Maurine F. Bryner .... Instructor in Food and Nutrition (1957)
B.S., Brigham Young University, 1928.

Doyle W. Buckwalter .... Assistant Professor of Political Science (1964)
B.A., M.A., Brigham Young University, 1962, 1964.

Ross McBride Buckwalter .... Instructor in Statistics (1966)
B.A., M.S., Brigham Young University, 1964, 1966.

Harold S. Budge .... Instructor in Psychology (1960)
B.S., M.S., Utah State University, 1958, 1960.

Wallace Don Budge .... Associate Professor of Civil Engineering (1964)
B.S., M.S., Utah State University, 1959, 1961; Ph.D., University of Colorado, 1964.

Kenneth C. Bullock .... Professor of Geology (1943)
B.S., M.A., Brigham Young University, 1940, 1942; Ph.D., University of Wisconsin, 1949.

Robert E. Bunker .... Instructor in Physical Education (1949)
B.S., Utah State University, 1937.

John Robert Burge .... Instructor in Statistics (1966)
B.A., University of Colorado, 1964; M.S., Brigham Young University, 1967.

Owen Robert Burgener .... Assistant Professor of Health and Safety Education (1964)
B.S., Utah State University, 1953; M.P.H., University of California (Berkeley), 1964.

M. Dallas Burnett .... Associate Professor of Communications (1958)
B.S., Brigham Young University, 1954; M.S.J., Ph.D., Northwestern University, 1958, 1967.

Wesley Burnside .... Assistant Professor of Art (1958)
B.S., M.S., Brigham Young University, 1941, 1949.

Percy E. Burrup .... Professor of Educational Administration (1952)
B.S., M.S., Utah State University, 1932, 1941; Ed.D., Colorado State College of Education, 1951.

Robert C. Burton .... Associate Professor of Mathematics (1964)
B.S., Brigham Young University, 1956; Ph.D., University of North Carolina, 1963.

Sheril Dale Burton .... Associate Professor of Microbiology (1967)
B.S., M.S., Brigham Young University, 1959, 1961; Ph.D., Oregon State University, 1964.

Jess R. Bushman .... Associate Professor of Geology (1955)
B.A., Brigham Young University, 1949; Ph.D., Princeton University, 1959.

Richard L. Bushman .... Associate Professor of History (1960)
B.A., Ph.D., Harvard University, 1955, 1961.

Eliot A. Butler .... Professor of Chemistry (1956)
B.S., Ph.D., California Institute of Technology, 1952, 1956.

Jay W. Butler .... Assistant Professor of Religious Instruction (1967)
B.A., Harvard University, 1962; LL.B., Columbia University, 1966.

Edwin J. Butterworth .... Assistant Professor of Journalism (1949)
B.A., University of Utah, 1950; M.A., Brigham Young University, 1954.

Allene C. Calder .... Instructor in Home Economics Education (1965)
B.S., Brigham Young University, 1960; M.S., Oregon State University, 1965.

Glen H. Calder .... Assistant Professor of Civil Engineering (1955)
B.S., M.S., Utah State University, 1952, 1953; Registered Surveyor, 1956.

Rose Eyring Calder .... Associate Professor of English (1964)
B.A., Brigham Young University, 1932; M.A., Columbia University, 1936; Ph.D., University of California, 1964.

Ara Om Call .... Assistant Professor of Animal Science (1965)
B.S., Iowa State University, 1933; M.S., University of Wisconsin, 1944.

C. Boyd Call .... Associate Professor of Physical Education (1960)
B.S., University of Utah, 1950; Physical Therapy Certificate from Children's Hospital in Los Angeles, 1953; M.S., Brigham Young University, 1963; Ph.D., University of Oregon, 1967.

Ivan T. Call .... Associate Professor of Business Management (1963)
B.S., Brigham Young University, 1958; M.B.A., Indiana University, 1959.

Sterling G. Callahan .... Professor of Secondary Education (1953)
B.A., Brigham Young University, 1937; M.A., George Washington University, 1947; Ed.D., University of Virginia, 1953.

J. Elliot Cameron .... Professor of Education; Dean of Students (1962)
B.S., M.S., Ed.D., Brigham Young University, 1949, 1949, 1966.

Eugene E. Campbell .... Professor of History (1956)
B.A., M.A., University of Utah, 1939, 1940; Ph.D., University of Southern California, 1952.

L. Howard Campbell .... Assistant Professor and Director of Institutional Research (1962)
B.S., M.B.A., University of Utah, 1955, 1957.

Clawson Y. Cannon, Jr. .... Associate Professor of Music (1949)
B.M., Eastman School of Music, University of Rochester, 1948; Diploma, Konservatorium Zurich, 1953; B.A., M.A., Brigham Young University, 1954, 1955.

John N. Cannon .... Professor of Mechanical Engineering (1957)
B.S.M.E., M.S., University of Utah, 1952, 1955; Ph.D., Stanford University, 1965; Registered Professional Engineer, Utah, 1958.

Kenneth L. Cannon .... Professor of Child Development and Family Relationships (1956)
B.S., Brigham Young University, 1935; M.S., Ph.D., Iowa State College, 1948, 1954.

Louis B. Cardon .... Assistant Professor of History (1960)
B.A., University of Arizona, 1950; M.A., Ph.D., University of California (Berkeley), 1957, 1965.

June Carlisle .... Clinical Instructor in Education (1956)
B.S., M.S., Brigham Young University, 1958, 1960.

Gary Carlson .... Director of Computer Center; Associate Professor of Computer Science (1963)
B.A., M.A., Ph.D., University of California at Los Angeles, 1956, 1958, 1962.

Melvin W. Carter .... Professor of Statistics (1961)
B.S., Arizona State University, 1952; M.S., Ph.D., North Carolina State, 1954, 1956.

Julia Carver .... Associate Professor of Physical Education for Women (1967)
B.S., Brigham Young University, 1952; M.A., New York University, 1954; Ph.D., University of Oregon, 1964.

Louise Marie Chamberlain .... Instructor in Housing and Home Management (1967)
B.S., Brigham Young University, 1962; M.S., Kansas State University, 1967.

Arthur O. Chapman .... Associate Professor of Zoology (1959)
B.A., Brigham Young University, 1941; M.A., University of Kansas, 1949; Ph.D., University of Nebraska, 1953.

A. Norton Chaston .... Assistant Professor of Electrical Engineering (1957)
B.S., University of Utah, 1951; M.S., Brigham Young University, 1963.

Paul Robert Cheesman .... Assistant Professor of Religious Instruction (1966)
B.A., San Diego State College, 1944; M.R.E., D.R.E., Brigham Young University, 1965, 1967.

Thomas E. Cheney .... Professor of English (1945)
B.S., Utah State University, 1930; M.A., University of Idaho, 1936.

Margaret Potter Childs .... Assistant Professor of Clothing and Textiles (1946)
B.S., Brigham Young University, 1939; M.S., Oregon State College, 1949.

Carl H. Christensen .... Instructor in Business Management (1965)
B.S., University of Utah, 1960; M.B.A., Harvard University, 1963.

Dean C. Christensen .... Professor of Education (1957)
B.S., M.S., Utah State University, 1938, 1948; Ed.D., University of Oregon, 1957.

Earl M. Christensen .... Professor of Botany (1949)
B.S., M.S., University of Utah, 1947, 1949; Ph.D., University of Wisconsin, 1954.

Edward L. Christensen .... Professor of Business Management (1953)
B.S., M.S., Ph.D., University of Utah, 1938, 1939, 1953.

James J. Christensen .... Professor of Chemical Engineering (1957)
B.S., M.S., University of Utah, 1953, 1956; Ph.D., Carnegie Institute of Technology, 1957.

Howard B. Christensen .... Assistant Professor of Statistics (1967)
B.S., Brigham Young University, 1964; M.S., North Carolina State University, 1966.

Ross T. Christensen .... Professor of Anthropology and Archaeology (1952)
B.A., M.A., Brigham Young University, 1943, 1947; Ph.D., University of Arizona, 1956.

Henry N. Christiansen .... Associate Professor of Civil Engineering (1965)
B.S., Utah State University, 1957; M.S., Ph.D., Stanford University, 1958, 1962.

John R. Christiansen .... Professor of Sociology (1957)
B.S., M.S., Utah State University, 1949, 1952; Ph.D., University of Wisconsin, 1955.

Bruce B. Clark .... Professor of English; Dean of the College of Humanities (1950)
B.A., University of Utah, 1943; M.A., Brigham Young University, 1948; Ph.D., University of Utah, 1951.

Dwight P. Clark .... Assistant Professor of Chemical Engineering (1964)
B.S., University of Utah, 1960; Ph.D., Oregon State University, 1965.

Harold Glen Clark .... Professor of Education; Dean of Continuing Education (1946)
B.S., Brigham Young University, 1928; M.S., University of Southern California, 1934; Ed.D., George Washington University, 1942.

Hazel C. Clark .... Clinical Instructor in Education (1952)
B.S., University of Utah, 1938; M.S., Brigham Young University, 1957.

Hoover W. Clark .... Associate Professor of French (1964)
B.A., M.A., Brigham Young University, 1954, 1958; Ph.D., Syracuse University, 1964.

J. Reuben Clark, III .... Professor of French and Classical Languages (1941)
B.A., University of Utah, 1934.

James R. Clark .... Professor of Religious Education (1938)
B.A., M.A., Brigham Young University, 1936, 1944; Ed.D., Utah State University, 1958.

Marden J. Clark .... Professor of English (1949)
B.A., M.A., Brigham Young University, 1948, 1949; Ph.D., University of Washington, 1957.

Monroe H. Clark .... Associate Professor of Philosophy of Education and Guidance (1945)
B.A., Columbia University, 1923; M.A., Brigham Young University, 1927.

Wayne W. Clark .... Professor of Economics (1962)
B.A., Brigham Young University, 1952; Ph.D., Texas A & M University, 1960.

Welsford Clark .... Clinical Instructor in Education (1956)
B.S., M.Ed., Brigham Young University, 1956, 1962.

A. John Clarke .... Professor of Education (1938)
B.S., M.S., Brigham Young University, 1938, 1942; Ed.D., Colorado University, 1950.

John C. Clegg .... Professor of Electrical Engineering (1961)
B.S., M.S., Ph.D., University of Utah, 1949, 1954, 1957.

Morris M. Clinger .... Associate Professor of Speech (1936)
B.A., M.A., Brigham Young University, 1932, 1946; Ph.D., University of Minnesota, 1963.

Coran L. Cluff .... Associate Professor of Chemistry (1960)
B.S., Arizona State University, 1952; M.S., Ph.D., University of Michigan, 1955, 1960.

Ralph Lee Coates .... Associate Professor of Chemical Engineering (1967)
B.S., Ph.D., University of Utah, 1959, 1962.

Dorothy Mae Coltrin .... Instructor in Food and Nutrition (1966)
B.S., University of California at Berkeley, 1962; M.S., University of California at Los Angeles, 1966.

Lane A. Compton .... Professor of Physical Science Education (1953)
B.S., M.S., Ed.D., University of Utah, 1943, 1951, 1955.

Merlin D. Compton .... Associate Professor of Spanish (1964)
B.A., M.A., Brigham Young University, 1952, 1954; Ph.D., University of California at Los Angeles, 1959.

Rita Conrad .... Instructor in Nursing (1963)
Diploma, University of Alberta, 1959; B.S., University of Alberta, 1960.

Alan D. Cook .... Assistant Professor of Religious Instruction (1962)
B.A., M.A., Brigham Young University, 1954, 1958.

Leslie Muir Cooper .... Associate Professor of Psychology (1966)
B.S., M.S., Brigham Young University, 1954, 1955; Ph.D., University of Illinois, 1962.

Ivan L. Corbridge .... Professor of Agricultural Economics (1952)
B.A., Utah State University, 1946; M.S., University of Chicago, 1948; Ph.D., Washington State College, 1952.

Keith M. Cottam .... Instructor in Library and Information Sciences (1967)
B.S., Utah State University, 1963; M.S.L.S., Pratt Institute, 1965.

Milford C. Cottrell .... Associate Professor of Secondary Education (1964)
B.A., University of Wyoming, 1948; M.S., Ed.D., Brigham Young University, 1956, 1961.

John M. R. Covey .... Instructor in Business Management (1966)
B.A., University of Utah, 1959; M.A., Harvard University, 1962.

Stephen R. Covey .... Assistant Professor of Business Management;
Assistant to President for University Relations (1957)
B.S., University of Utah, 1953; M.B.A., Harvard Graduate School of Business Administration, 1957.

Richard O. Cowan .... Associate Professor of History of Religion (1961)
B.A., Occidental College, 1958; M.A., Ph.D., Stanford University, 1959, 1961.

Charles M. Cox .... Instructor in Business Management (1965)
B.S., Brigham Young University, 1955; M.B.A., Harvard University, 1961.

Soren F. Cox .... Associate Professor of English (1955)
B.A., M.A., Brigham Young University, 1952, 1956; Ph.D., University of Minnesota, 1964.

Richard H. Cracroft .... **Instructor in English (1963)**
B.A., M.A., University of Utah, 1961, 1963.

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Marshall R. Craig .... Assistant Professor of English (1953)
B.S., Brigham Young University, 1941; M.A., Columbia University, 1947.

Wesley W. Craig .... Associate Professor of Sociology (1967)
B.A., Brigham Young University, 1956; Ph.D., Cornell University, 1967.

Loretta Seneca Crane .... Assistant Professor of Nursing (1966)
B.S., Brigham Young University, 1961; M.S., University of Utah, 1964.

Earl C. Crockett .... Professor of Economics (1957)
B.S., University of Utah, 1927; Ph.D., University of California, 1931.

Evan M. Croft .... **Associate Professor of Business Education (1936)**
B.S., Brigham Young University, 1929; M.S., University of Southern California, 1940.

Garth F. Croft .... Instructor in Microbiology (1966)
B.S., Brigham Young University, 1957.

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Walter Cryer .... Assistant Professor of Physical Education (1964)
B.S., M.S., University of Illinois, 1952, 1959.

Bert P. Cundick .... Associate Professor of Psychology (1962)
B.A., M.S., University of Utah, 1957, 1959; Ph.D., Ohio State University, 1962.

Brandt B. Curtis .... Assistant Professor of Music (1955)
B.A., Brigham Young University, 1953; M.Mus., Indiana University, 1955.

Virginia F. Cutler .... Distinguished Professor of Home Economics (1961)
B.S., University of Utah, 1926; M.A., Stanford University, 1937; Ph.D., Cornell University, 1946.

Delva Daines .... Professor of Elementary Education (1955)
B.S., M.S., Utah State University, 1940, 1947; Ed.D., Washington State University, 1956.

Robert H. Daines .... Associate Professor of Business Management (1959)
B.S., Utah State University, 1956; M.B.A., Stanford University, 1959; D.B.A., Indiana University, 1966.

David J. Dalton .... Instructor in Music (1963)
B.M., M.M., Eastman School of Music, 1959, 1961.

Philip B. Daniels .... Associate Professor of Psychology (1961)
B.S., M.S., Brigham Young University, 1954, 1957; Ph.D., Harvard University, 1962

Alexander B. Darais .... Associate Professor of Art (1954)
B.S., Brigham Young University, 1948; M.F.A., Claremont Graduate School, 1952.

Bertha B. Davidson .... Clinical Instructor in Elementary Education (1950)
B.S., M.Ed., Brigham Young University, 1950, 1954.

J. Kenneth Davies .... Professor of Economics (1953)
B.S., Marquette University, 1945; M.S., Brigham Young University, 1950; Ph.D., University of Southern California, 1959.

D. Evan Davis .... Professor of Music (1965)
B.A., University of California at Los Angeles, 1946; M.Mus., Northwestern University, 1948; Ed.D., University of Oregon, 1953.

Fred P. Davis .... Wrestling Coach; Instructor in Physical Education (1964)
B.S., Oklahoma State University, 1957.

S. Sgt. G. Douglas Davis .... Instructor in Aerospace Studies (1967)

Gerald N. Davis .... Associate Professor of German (1968)
B.A., M.A., Brigham Young University, 1958, 1959; Ph.D., Johns Hopkins University, 1962.

Harrison M. Davis .... Instructor in English (1962)
B.S., M.A., Utah State University, 1961, 1963.

C. Edwin Dean .... Associate Professor of Computer Science (1949)
B.S., M.S., Brigham Young University, 1948, 1952; M.S., University of Michigan, 1955.

Daniel L. Decker .... Professor of Physics (1958)
B.S., M.S., Brigham Young University, 1953, 1955; Ph.D., University of Illinois, 1958.

Harry C. Dees .... Instructor in Library and Information Sciences (1959)
B.A., Brigham Young University, 1949; M.A., University of California, 1950.

Benjamin F. deHoyos .... Assistant Professor of Recreation Education (1961)
B.S., M.A., Brigham Young University, 1956, 1961.

Gerrit de Jong, Jr. .... Professor of Modern Languages; Dean Emeritus, College of Fine Arts (1925)
B.A., M.A., University of Utah, 1920, 1925; Ph.D., Stanford University, 1933.

Thelma B. de Jong .... Clinical Instructor in Secondary Education (1957)
B.A., Southern Idaho College of Education, 1948; M.A., Brigham Young University, 1957.

Stanford D. DeMille .... Assistant Professor of Business Education (1957)
B.S., M.S., Brigham Young University, 1950, 1960.

Maureen Derrick .... Instructor in English (1963)
B.A., University of Utah, 1959; M.A., Brigham Young University, 1965.

Thomas Leroy Dezelsky .... Associate Professor of Health and Safety Education (1966)
B.S., Central Michigan University, 1956; M.A., University of Michigan, 1959; H.S.D., Indiana University, 1966.

William E. Dibble .... Associate Professor of Physics (1961)
B.S., Ph.D., California Institute of Technology, 1954, 1960.

Dwight R. Dixon .... Professor of Physics (1959)
B.S., Utah State University, 1942; Ph.D., University of California, 1955.

Fred W. Dixon .... Assistant Professor of Physical Education, (1928)
B.S., M.S., Brigham Young University, 1926, 1939.

Richard Charles Dixon .... Instructor in Mathematics (1967)
B.S., Idaho State University, 1965; M.S., University of Utah, 1967.

Mignon S. Domgaard .... Instructor in Clothing and Textiles (1954)
B.S., Utah State University, 1943; M.S., Oregon State College, 1954.

Lucile L. Domigan .... Associate Professor of Clothing and Textiles (1967)
B.S., Brigham Young University, 1940; M.S., Utah State University, 1959; Ph.D., Texas Woman's University, 1959.

David M. Donaldson .... Professor of Microbiology (1955)
B.S., M.S., Ph.D., University of Utah, 1950, 1952, 1954.

Arthur A. Done .... Associate Professor of Business Management (1961)
B.S., M.B.A., University of Utah, 1955, 1956; Ph.D., University of Illinois, 1963.

G. Byron Done .... Professor of Scripture (1956)
B.A., University of Utah, 1928; M.A., Ph.D., University of Southern California, 1937, 1939.

Harold L. Dowdle .... Professor of Spanish and Portuguese (1968)
B.A., M.A., Brigham Young University, 1948, 1949; Ph.D., Stanford University, 1954.

Karen A. Downey .... Instructor in Business (1966)
B.S., M.S., Brigham Young University, 1963, 1966.

Lester N. Downing .... Professor of Educational Psychology (1954)
B.S., M.S., Utah State University, 1947, 1949; Ed.D., Colorado State College of Education, 1951.

Robert Henry Downs .... Assistant Professor of Music (1966)
B.M., M.M., University of Missouri at Kansas City, 1957, 1957.

Roy W. Doxey .... Professor of Scripture (1948)
B.A., M.A., George Washington University, 1938, 1940.

Willard B. Doxey .... Professor of Economics (1956)
B.S., M.S., University of Utah, 1937, 1947; Ph.D., University of California (Berkeley), 1956.

J. Duane Dudley .... Professor of Physics (1956)
B.S., Brigham Young University, 1952; M.A., Rice Institute, 1953; Ph.D., University of Utah, 1959.

Claude B. Duerden .... Assistant Professor of Indian Education (1958)
B.S., University of Utah, 1950; M.P.H., University of California (Berkeley), 1954.

James T. Duke .... Associate Professor of Sociology (1963)
B.A., M.A., University of Utah, 1957, 1958; Ph.D., University of California at Los Angeles, 1963.

William G. Dyer .... Professor of Sociology (1955)
B.A., M.A., Brigham Young University, 1950, 1952; Ph.D., University of Wisconsin, 1955.

L. Brent Eagar .... Associate Professor of Business Management (1959)
B.S.E.E., University of Utah, 1957; M.B.A., University of Michigan, 1959; D.B.A., University of Washington, 1965.

Don L. Earl .... Professor of Music (1946)
B.A., M.A., Brigham Young University, 1940, 1947; Ph.D., Indiana University, 1952.

Gary W. Earnest .... Instructor in Physical Education (1964)
B.S., M.S., Brigham Young University, 1961, 1963.

E. John Eastmond .... Professor of Physics (1951)
B.A., Brigham Young University, 1937; Ph.D., University of California (Berkeley), 1943.

Mary Ellen Edmunds .... Instructor in Nursing (1965)
B.S., Brigham Young University, 1962.

R. LaVell Edwards .... Instructor in Physical Education (1965)
B.S., Utah State University, 1952; M.S., University of Utah, 1960.

Robert L. Egbert .... Professor of Educational Psychology (1955)
B.S., M.S., Utah State University, 1947, 1948; Ph.D., Cornell University, 1949.

Russell J. Egbert .... Assistant Professor of Mathematics (1963)
B.A., University of California at Riverside, 1960; M.S., Ph.D., University of Arizona, 1961, 1967.

Richard Grant Ellsworth .... Associate Professor of English (1958)
B.A., M.A., Brigham Young University, 1951, 1952; Ph.D., University of Maryland, 1958.

Glenn L. Enke .... Professor of Civil Engineering (1962)
B.S., University of California, 1928; Registered Engineer, California, 1934, Utah, 1947, Ohio, 1964, Wyoming, 1965; Registered Land Surveyor, Utah, 1955.

Ross S. Esplin .... Assistant Professor of English (1964)
B.A., M.A., Brigham Young University, 1947, 1949.

JoAnn Eugster .... Instructor in Associate-Degree Nursing (1967)
B.S., University of Utah, 1964.

David L. Evans .... Assistant Professor of English (1954)
B.A., Idaho State College, 1948; M.A., University of Utah, 1953.

LeRoy G. Faerber .... Assistant Professor of Business Management (1965)
B.S., M.B.A., University of Utah, 1958, 1959; D.B.A., University of Washington, 1964.

Merwin G. Fairbanks .... Instructor in Communications (1962)
B.A., M.A., Brigham Young University, 1941, 1964.

James L. Farmer .... Assistant Professor of Zoology (1968)
B.S., California Institute of Technology, 1960; Ph.D., Brown University, 1966.

Dean B. Farnsworth .... Professor of English (1953)
B.A., M.A., University of Utah, 1946, 1947; Ph.D., University of California (Berkeley), 1950.

Lee W. Farnsworth .... Associate Professor of Political Science (1964)
B.A., M.A., University of California at Berkeley, 1957, 1960; Ph.D., Claremont Graduate School, 1963.

Raymond B. Farnsworth .... Professor of Agronomy (1946)
B.S., Brigham Young University, 1937; M.S., Massachusetts State College, 1938; Ph.D., Ohio State University, 1941.

J. Earl Faulkner .... Associate Professor of Statistics (1963)
B.S., Utah State University, 1950; M.S., Kansas State University, 1952; Ph.D., University of Minnesota, 1964.

Lawrence Fearnley .... Professor of Mathematics (1957)
B.S., London University, 1953; Ph.D., University of Utah, 1959.

Mary Ann Featherstone .... Instructor in Nursing (1966)
B.S., Brigham Young University, 1963.

Paul E. Felt .... Assistant Professor of Indian Education (1957)
B.A., Brigham Young University, 1942; M.S., University of Utah, 1954.

Richard G. Felt .... Instructor in Physical Education for Men (1967)
B.S., Brigham Young University, 1958.

Hal G. Ferguson .... Instructor in Child Development and Family Relationships (1967)
B.A., M.A., Brigham Young University, 1954, 1957.

D. Allan Firmage .... Professor of Engineering (1955)
B.S., University of Utah, 1940; M.S., Massachusetts Institute of Technology, 1941; Registered Engineer, Florida, 1948, Utah, 1956.

Sherman K. Fitzgerald .... Associate Professor of Sociology (1962)
B.S., M.S., Brigham Young University, 1948, 1951; Ph.D., Cornell University, 1952.

Chad J. Flake .... Assistant Professor of Library and Information Sciences (1953)
B.A., Brigham Young University, 1953; M.A., University of Denver, 1955.

Royce P. Flandro .... Associate Professor of Secondary Education (1953)
B.S., M.S., University of Utah, 1948, 1950; Ed.D., University of Indiana, 1957.

Charles T. Fletcher .... Assistant Professor of Law Enforcement (1967)
B.S., Brigham Young University, 1939.

Dale T. Fletcher .... Instructor in Art (1965)
B.S., Utah State University, 1953; M.A., University of California at Berkeley, 1956.

Harvey J. Fletcher .... Professor of Mathematics (1953)
B.S., Massachusetts Institute of Technology, 1944; M.S., California Institute of Technology, 1948; Ph.D., University of Utah, 1954.

Marvin H. Folsom .... Associate Professor of German (1961)
B.A., M.A., Brigham Young University, 1956, 1957; Ph.D., Cornell University, 1961.

Suzanne Forsberg .... Instructor in Music (1967)
B.M., University of Utah, 1962; A.M., Harvard University, 1965.

Paul P. Forster .... Instructor in Art (1965)
B.A., Brigham Young University, 1952.

Glen Ray Foster .... Assistant Professor of Economics (1967)
B.S., Utah State University, 1963; Ph.D., University of Texas, 1967.

William Fox .... Instructor in General Curriculum (1966)
B.S., M.A., Brigham Young University, 1962, 1966.

Rulon S. Francis .... Instructor in Physical Education (1963)
B.S., M.S., Brigham Young University, 1952, 1967; Registered Physical Therapist, University of Southern California, 1954.

Joseph C. Free .... Associate Professor of Mechanical Engineering (1961)
B.E.S., Brigham Young University, 1958; M.S., California Institute of Technology, 1961; Ph.D., Massachusetts Institute of Technology, 1967.

Herbert H. Frost .... Professor of Zoology (1960)
B.A., M.A., Brigham Young University, 1941, 1947; Ph.D., Cornell University, 1955.

Merrill Franklin Frost .... Assistant Professor of Speech (1966)
B.A., M.A., Brigham Young University, 1959, 1964.

John P. Fugal .... Assistant Professor of Religious Instruction (1966)
B.S., M.S., D.R.E., Brigham Young University, 1948, 1959, 1967.

Dean K. Fuhriman .... Professor of Engineering (1954)
B.S., M.S., Utah State University, 1941, 1950; Ph.D., University of Wisconsin, 1952.

LaVell C. Gamett .... Assistant Professor of Industrial Education (1946)
B.S., Brigham Young University, 1935; M.S., University of Oregon, 1951.

Andrew L. Gardner .... Professor of Physics (1964)
B.S., Utah State University, 1940; Ph.D., University of California (Berkeley), 1955.

John H. Gardner .... Professor of Physics (1949)
B.S., Utah State University, 1943; M.A., Ph.D., Harvard University, 1947, 1950.

Judith Gardner .... Instructor in Associate-Degree Nursing (1967)
A.S., Weber College, 1947; B.S., University of Utah, 1965.

Robert Wayne Gardner .... Associate Professor of Animal Science (1966)
B.S., Utah State University, 1958; M.S., Ph.D., Cornell University, 1960, 1962.

Willard H. Gardner .... Senior Systems Analyst of Computer Center; Assistant Professor of Computer Science (1963)
B.S., Utah State University, 1948; M.S., Brigham Young University, 1956.

Lynn E. Garner .... Instructor in Mathematics (1963)
B.S., Brigham Young University, 1962; M.A., University of Utah, 1964.

Ray Howard Garrison .... Assistant Professor of Accounting (1966)
B.S., M.S., Brigham Young University, 1960, 1961; C.P.A., Colorado, 1962; D.B.A., Indiana University, 1966.

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Byron W. Gassman .... Associate Professor of English (1960)
B.A., Brigham Young University, 1955; M.A., Ph.D., University of Chicago, 1956, 1960.

Edward A. Geary .... Assistant Professor of English (1968)
B.A., M.A., Brigham Young University, 1960, 1963.

David D. Geddes .... Professor of Health and Physical Education for Men (1952)
B.S., M.S., Brigham Young University, 1950, 1952; Ph.D., University of Southern California, 1959.

Burton C. Gee .... Assistant Professor of Mathematics (1960)
B.S., Brigham Young University, 1951; M.S., Ed.D., Oregon State University, 1958, 1965.

O. Norman Geertsen .... Assistant Professor of Physics (1941)
B.S., Brigham Young University, 1930; M.S., University of California at Los Angeles, 1951.

Sara Lee Gibb .... Special Instructor in Physical Education for Women (1965)
B.A., Brigham Young University, 1959.

Rendol L. Gibbons .... Assistant Professor of Music (1964)
B.A., M.A., Arizona State College, 1947, 1954.

M. Carl Gibson .... Professor of Spanish (1949)
B.A., M.A., Brigham Young University, 1947, 1949; Ph.D., University of Oregon, 1960.

Gurcharan S. Gill .... Associate Professor of Mathematics (1960)
B.S., Brigham Young University, 1958; M.S., Ph.D., University of Utah, 1960, 1965.

Joseph M. Glassett .... Assistant Professor of Chemical Engineering (1966)
B.S., University of Utah, 1947; M.S., Massachusetts Institute of Technology, 1948.

Preston R. Gledhill .... Professor of Dramatic Arts (1947)
Degré Supérieur, La Sorbonne, 1938; B.A., Brigham Young University, 1939; M.A., Louisiana State University, 1940; Ph.D., University of Wisconsin, 1951.

Ronald E. Glenn .... Associate Professor of Industrial Education (1966)
B.S., M.S., Utah State University, 1960, 1961; Ed.D., Brigham Young University, 1966.

J. Rex Goates .... Professor of Chemistry (1947)
B.S., Brigham Young University, 1942; Ph.D., University of Wisconsin, 1947.

Margaret Tuttle Goff .... Instructor in English (1964)
B.A., Stanford University, 1942; M.A., University of Utah, 1962.

Max C. Golightly .... Assistant Professor of Dramatic Arts (1960)
B.A., M.A., Brigham Young University, 1950, 1959.

A. Harold Goodman .... Professor of Music (1960)
B.A., University of Arizona, 1947; M.Mus., Ed.D., University of Southern California, 1951, 1960.

William Dale Goodson .... Instructor in General College (1965)
B.S., Ricks College, 1952; M.S., Brigham Young University, 1956.

Reese J. Goodwin .... Assistant Professor of Civil Engineering (1963)
B.S., M.S., Brigham Young University, 1962, 1963.

Nan Osmond Grass .... Assistant Professor of English (1951)
B.A., Brigham Young University, 1930; M.A., Stanford University, 1954.

John A. Green .... Professor of French (1964)
B.A., M.A., Brigham Young University, 1954, 1955; Ph.D., University of Washington, 1960.

Alan H. Grey .... Assistant Professor of Geography (1964)
B.A., Brigham Young University, 1959; M.A., Ph.D., University of Wisconsin, 1960, 1963.

Major Robert Griffith .... Assistant Professor of Aerospace Studies (1966)
B.S., University of Utah, 1957; M.Ed., Our Lady of the Lake, San Antonio, Texas, 1966.

Lue S. Groesbeck .... Assistant Professor of Music (1957)
B.A., M.A., Brigham Young University, 1948, 1966.

Stewart L. Grow .... Professor of History and Political Science; Director, Institute of Government Service (1947)
B.S., M.S., Brigham Young University, 1935, 1948; Ph.D., University of Utah, 1954.

Clark J. Gubler .... Professor of Chemistry (1958)
B.A., Brigham Young University, 1939; M.A., Utah State University, 1941; Ph.D., University of California, 1945.

Donworth V. Gubler .... Assistant Professor of Russian (1954)
B.A., M.A., Brigham Young University, 1948, 1949.

Richard L. Gunn .... Professor of Art and Education (1948)
B.S., M.S., Brigham Young University, 1947, 1950; Ed.D., Stanford University, 1955; Banff School of Fine Arts.

Vernon Melvin Guymon .... Instructor in Mathematics (1967)
B.S., M.S., Brigham Young University, 1965, 1967.

LeRoy R. Hafen .... Professor of History (1954)
B.A., Brigham Young University, 1916; M.A., University of Utah, 1919; Ph.D., University of California, 1924; Litt.D., University of Colorado, 1935.

William J. Hafen .... Associate Professor of Recreation Education (1954)
B.S., Brigham Young University, 1950; M.A., State College of Washington, 1953; D.R., Indiana University, 1960; Ed.D., University of Utah, 1968.

Patricia M. Haglund .... Assistant Professor of Music (1967)
B.A., University of California (Los Angeles), 1957; M.A., Teachers College, Columbia University, 1963.

David B. Haight .... Assistant to the President of the University (1966)

Wayne B. Hales .... Professor of Physics and Mathematics (1930)
B.A., Brigham Young University, 1916; M.A., University of Utah, 1923; Ph.D., California Institute of Technology, 1926.

Blaine H. Hall .... Instructor in English (1963)
B.S., M.A., Brigham Young University, 1960, 1965.

H. Tracy Hall .... Distinguished Professor of Chemistry; Director of the Research Division (1955)
B.S., M.S., Ph.D., University of Utah, 1942, 1943, 1948.

Wendell H. Hall .... Assistant Professor of Spanish (1966)
B.A., M.A., University of Utah, 1952, 1953.

John R. Halliday .... Professor of Music (1936)
B.A., M.A., Brigham Young University, 1935, 1936; Ph.D., Eastman School of Music, University of Rochester, 1941.

Lawson O. Hamblin .... Assistant Professor of Library and Information Sciences (1948)
B.A., Brigham Young University, 1938; LL.B., Washington College of Law, American University, 1948.

W. Kenneth Hamblin .... Professor of Geology (1963)
B.A., M.S., Brigham Young University, 1953, 1954; Ph.D., University of Michigan, 1958.

Kathleen B. Hammond .... Assistant Professor of Nursing (1964)
B.S., Brigham Young University, 1960; M.S., University of Utah, 1964.

Ruth Kartchner Hammond .... Instructor in Special Education (1966)
B.S., M.S., University of Utah, 1950, 1955.

Helen Adde H. Matern Instructor in Nursing (1966)
Diploma in Nursing, St. Patrick's Hospital School of Nursing, 1959; B.S., College of Great Falls, 1961; M.N., Montana State University, 1966.

David LaWayne Hanks Assistant Professor of Botany (1966)
B.S., M.S., Brigham Young University, 1962, 1963; Ph.D., University of Michigan, 1966.

Richard W. Hanks Assistant Professor of Chemical Engineering (1963)
B.E., Yale University, 1957; Ph.D., University of Utah, 1960.

George H. Hansen Professor of Geology and Geography (1927)
B.S., Utah State University, 1918; M.S., Ph.D., George Washington University, 1925, 1927.

Harold I. Hansen Professor of Dramatic Arts (1952)
B.S., Utah State University, 1937; M.A., Ph.D., State University of Iowa, 1940, 1949.

H. Kimball Hansen Associate Professor of Physics and Astronomy (1963)
B.S., M.S., Brigham Young University, 1957, 1959; Ph.D., University of California (Berkeley), 1966.

John L. Hansen Instructor in Recreation Education (1966)
B.S., M.R.Ed., Brigham Young University, 1964, 1966.

Richard A. Hansen Assistant Professor of Mathematics (1967)
B.S., M.S., Ph.D., University of Utah, 1959, 1961, 1965.

Terrence L. Hansen Professor of Spanish (1960)
B.A., University of Utah, 1946; M.A., Ph.D., Stanford University, 1948, 1950.

Ilene Harding Special Instructor in Clothing and Textiles (1966)
B.S., Brigham Young University, 1962.

John W. Hardy Instructor in Accounting (1968)
B.S., Brigham Young University, 1964; M.B.A., Indiana University, 1966.

Kenneth R. Hardy Professor of Psychology (1954)
B.A., M.A., University of Utah, 1948, 1949; Ph.D., University of Michigan, 1954.

LeRoy F. Harlow Associate Professor of Organization and Management (1967)
B.S., Iowa State University, 1938; M.A., University of Minnesota, 1942.

Frank W. Harmon Associate Professor of Elementary Education (1963)
B.S., M.S., University of Utah, 1952, 1956; Ed.D., Columbia University, 1964.

Callis R. Harms Associate Professor of Educational Administration (1960)
B.S., M.Ed., Brigham Young University, 1952, 1956; Ed.D., Arizona State University, 1961.

James M. Harris Professor of Educational Psychology (1955)
B.S., M.S., Utah State University, 1952, 1953; Ph.D., Cornell University, 1955.

James Roy Harris Assistant Professor of Religious Instruction (1966)
B.S., M.A., Ed.D., Brigham Young University, 1952, 1958, 1965.

John B. Harris Associate Professor of English (1958)
B.A., M.A., Brigham Young University, 1955, 1956; Ph.D., Wayne State University, 1965.

John S. Harris Assistant Professor of English (1962)
B.A., M.A., Brigham Young University, 1953, 1958.

Bertrand F. Harrison Professor of Botany (1929)
B.S., M.S., Brigham Young University, 1930, 1931; Ph.D., University of Chicago, 1937.

B. Kent Harrison Associate Professor of Physics (1964)
B.S., Brigham Young University, 1955; M.A., Ph.D., Princeton University, 1958, 1959.

Betty D. Harrison Associate Professor of Educational Psychology (1961)
B.S., M.S., Ph.D., Brigham Young University, 1959, 1960, 1965.

Charles J. Hart Professor of Recreation and of Physical and Health Education (1925)
B.S., Utah State University, 1922; M.A., Ed.D., New York University, 1932, 1945.

Edward L. Hart Professor of English (1952)
B.S., University of Utah, 1939; M.A., University of Michigan, 1941; Ph.D., Oxford University (England), 1950.

Larry D. Hartman Instructor in Business Education (1964)
B.S., M.S., Brigham Young University, 1962, 1964.

Leon R. Hartshorn Assistant Professor of Religious Instruction (1965)
B.S., M.S., Brigham Young University, 1956, 1959; Ed.D., Stanford University, 1965.

Milton F. Hartvigsen Professor of Physical Education; Dean of the College of Physical Education (1956)
B.S., M.Ed., Utah State University, 1930, 1939; Ed.D., University of California at Los Angeles, 1956.

Floyd E. Haupt .... Assistant Professor of Mathematics (1954)
B.S., M.S., University of Arizona, 1947, 1948.

Nena Rey Hawkes .... Instructor in Physical Education for Women (1961)
B.S., Utah State University, 1954; M.S., Brigham Young University, 1965.

Richard T. Hawkins .... Associate Professor of Chemistry (1959)
B.A., Brigham Young University, 1951; Ph.D., University of Illinois, 1959.

Darwin L. Hayes .... Instructor in English (1961)
B.A., M.A., Brigham Young University, 1957, 1963.

C. Lynn Hayward .... Professor of Zoology (1930)
B.S., M.S., Brigham Young University, 1927, 1931; Ph.D., University of Illinois, 1941.

Alma Heaton .... Assistant Professor of Recreation Education (1953)
B.S., M.S., Utah State University, 1950, 1951.

Howard S. Heaton .... Assistant Professor of Mechanical Engineering (1963)
B.S., University of Southern California, 1957; M.S., Ph.D., Stanford University, 1959, 1963.

Israel C. Heaton .... Professor of Recreation Education (1956)
B.S., M.S., Utah State University, 1940, 1941; Re.D., University of Indiana, 1955.

Major Gayle D. Heckel .... Assistant Professor of Aerospace Studies (1967)
B.A., University of Evansville, 1955.

Wilma D. Hein .... Assistant Professor of Physical Education for Women (1967)
B.A., Long Beach State College, 1959; M.S., University of Southern California, 1965.

E. Dean Henderson .... Clinical Instructor in Education (1964)
B.S., M.E., Utah State University, 1936, 1958.

Leland J. Hendrix .... Assistant Professor of Graduate Education (1967)
B.S., M.A., Ph.D., Brigham Young University, 1960, 1966, 1967.

Richard Wilford Heninger .... Assistant Professor of Zoology and Entomology (1966)
B.S., Brigham Young University, 1957; M.S., Ph.D., Oklahoma State University, 1959, 1961.

Charles A. Henson .... Assistant Professor of Dramatic Arts (1958)
B.S., M.S., Brigham Young University, 1957, 1959.

Karl P. Herde, Jr. .... Instructor in Accounting (1957)
B.S., M.S., Brigham Young University, 1949, 1956.

Wayne R. Herlin .... Assistant Professor of Educational Psychology (1964)
B.A., University of Utah, 1953; M.A., Stanford University, 1956; Ph.D., University of Utah, 1963.

Jerry Allen Herndon .... Assistant Professor of English (1966)
B.S., Murray State College, 1962; M.A., Ph.D., Duke University, 1964, 1966.

Wilford M. Hess .... Associate Professor of Botany (1962)
B.S., Brigham Young University, 1957; M.S., Ph.D., Oregon State University, 1960, 1962.

Jean-Pierre Heudier .... Assistant Professor of French (1960)
B.A., Montana State University, 1957; M.A., Brigham Young University, 1960.

Martin B. Hickman .... Professor of Political Science (1967)
B.S., M.A., Ph.D., University of Utah, 1951, 1952, 1954; M.P.A., Harvard University, 1960.

John C. Higgins .... Assistant Professor of Mathematics (1961)
B.A., M.A., Brigham Young University, 1958, 1960.

Armin J. Hill .... Professor of Physics; Dean of the College of Physical and Engineering Sciences (1957)
B.S., M.S., Montana State College, 1932, 1938; M.S., Ph.D., California Institute of Technology, 1949, 1950.

L. Douglas Hill .... Instructor in English (1959)
B.S., Brigham Young University, 1954.

Marvin S. Hill .... Assistant Professor of History (1966)
B.A., M.A., Brigham Young University, 1955, 1955.

Max W. Hill .... Professor of Physics (1958)
B.A., Brigham Young University, 1954; Ph.D., University of California (Berkeley), 1959.

Kenneth L. Hillam .... Professor of Mathematics (1957)
B.S., M.S., University of Utah, 1949, 1956; Ph.D., University of Colorado, 1962.

Ray C. Hillam .... Associate Professor of Political Science (1960)
B.A., University of Utah, 1955; M.A., George Washington University, 1958; Ph.D., American University, 1964.

Horace G. Hilton Associate Professor of Statistics (1962)
B.S., Brigham Young University, 1957; M.S., Ph.D., North Carolina State College, 1960, 1962.

Edwin C. Hinckley Professor of Industrial Education (1963)
B.S., M.S., Oregon State University, 1950, 1956; Ed.D., Colorado State College, 1963.

Lehi F. Hintze Professor of Geology (1955)
B.A., University of Utah, 1941; M.A., Ph.D., Columbia University, 1949, 1951.

Willard M. Hirschi Assistant Professor of Health and Safety Education (1964)
B.S., Brigham Young University, 1956; M.A., Arizona State University, 1960.

Cyntha C. Hirst Assistant Professor of Physical Education for Women (1965)
B.S., University of Utah, 1947; M.S., University of Washington, 1952.

Leona Holbrook Professor of Physical Education (1937)
B.S., University of Utah, 1929; M.A., Ed.D., Columbia University, 1935, 1950.

Lyal E. Holder Associate Professor of Teacher Education (1966)
B.S., Brigham Young University, 1951; M.A., Colorado State College, 1958; Ed.D., Colorado State College, 1962.

Ivin L. Holt Assistant Professor of Industrial Education (1963)
B.S., Brigham Young University, 1957; M.Ed., Pennsylvania State University, 1958.

Minnie Rebecca Hood Assistant Professor of Nursing (1968)
B.S., University of Mississippi, 1953; M.S., University of Maryland, 1964.

Keith H. Hoopes Associate Professor of Animal Science (1957)
B.S., Utah State University, 1957; D.V.M., State College of Washington, 1956.

Russell N. Horiuchi Assistant Professor of Geography (1961)
B.A., Brigham Young University, 1953; M.A., University of California, 1958.

A. Burt Horsley Professor of Philosophy and Religion (1956)
B.A., M.A., Brigham Young University, 1945, 1954; Dd.P., Münster University, 1955; Ph.D., Westphalian Welhelms Universität, Münster, Germany, 1956.

Frank K. Horton Assistant Professor of English (1955)
B.A., Brigham Young University, 1951; M.A., University of Southern California, 1957.

M. Duane Horton Associate Professor of Chemical Engineering (1963)
B.S., Ph.D., University of Utah, 1957, 1961.

William A. Hoskisson Associate Professor of Microbiology (1957)
B.S., M.S., Utah State University, 1938, 1941; Ph.D., University of Illinois, 1944.

Alice E. Howe Instructor in English (1959)
B.A., M.A., Brigham Young University, 1958, 1961.

Robert J. Howell Professor of Psychology (1952)
B.A., M.A., Ph.D., University of Utah, 1948, 1949, 1951.

Ernest D. Hubbard Associate Professor of Accounting (1963)
B.S., Utah State University, 1952; M.B.A., University of Utah, 1959.

Tommy J. Hudspeth Instructor in Physical Education; Head Football Coach (1964)
B.A., University of Tulsa, 1953.

DeVerl S. Humpherys Associate Professor of Electrical Engineering (1964)
B.S., Brigham Young University, 1955; M.S., University of Utah, 1957; Ph.D., University of Illinois, 1963.

O. Glade Hunsaker Instructor in English (1964)
B.S., Utah State University; M.A., Brigham Young University, 1964.

Royal C. Hurd Special Instructor in Mathematics (1967)
B.S., Brigham Young University, 1959.

Paul V. Hyer Associate Professor of History (1957)
B.A., Brigham Young University, 1951; M.A., Ph.D., University of California, 1953, 1960.

Carlton A. Infanger Associate Professor of Agricultural Economics (1965)
B.S., M.S., Ph.D., Montana State College, 1955, 1956, 1964.

Reed M. Izatt Professor of Chemistry (1956)
B.S., Utah State University, 1951; Ph.D., Pennsylvania State University, 1954.

Ramona M. Jacob Clinical Instructor in Education (1962)
B.A., M.A., Brigham Young University, 1942, 1966.

Briant S. Jacobs Professor of English (1946)
B.A., Brigham Young University, 1939; Ph.D., State University of Iowa, 1944.

Richard W. Jacobs Instructor in Mathematics (1966)
B.S., M.S., Brigham Young University, 1964, 1966.

Phyllis C. Jacobson Assistant Professor of Physical Education for Women (1957)
B.S., M.S., Utah State University, 1953, 1954.

M. Wells Jakeman .... Professor of Anthropology and Archaeology (1946)
B.A., University of Utah, 1931; M.A., University of Southern California, 1932; Ph.D., University of California, 1938.

Sherald W. James .... Instructor in Health and Safety Education (1962)
B.S., M.S., Brigham Young University, 1956, 1962.

Virgil A. James .... Professor of Business Management; Director of Management Development Programs (1967)
B.S., University of Utah, 1936; Ph.D., Cornell University, 1951.

Ronald D. Jamison .... Associate Professor of Mathematics (1963)
B.S., Brigham Young University, 1957; Ph.D., University of Utah, 1965.

August W. Jaussi .... Associate Professor of Zoology (1962)
B.S., University of Idaho, 1953; M.S., Brigham Young University, 1955; Ph.D., Oklahoma State University, 1960.

Jean R. Jenkins .... Instructor in Speech (1967)
B.A., M.A., Brigham Young University, 1947, 1966.

Ronda H. Jenkins .... Assistant Professor of Industrial Education (1964)
B.S., M.A., Brigham Young University, 1955, 1966.

Allene Jensen .... Instructor in Library and Information Sciences (1961)
B.A., M.S., University of Utah, 1930, 1957.

Clayne R. Jensen .... Professor of Physical Education and Recreation Education (1964)
B.S., M.S., University of Utah, 1952, 1956; P.E.D., Indiana University, 1963.

De Lamar Jensen .... Professor of History (1957)
B.A., Brigham Young University, 1952; M.A., Ph.D., Columbia University, 1953, 1957.

Don C. Jensen .... Instructor in French (1963)
B.A., M.A., Brigham Young University, 1960, 1963.

Gary L. Jensen .... Assistant Professor of Physics (1965)
B.S., Utah State University, 1958; M.S., Ph.D., University of Michigan, 1960, 1964.

James A. Jensen .... **Curator of Geology (1961)**

Joyce I. Jensen .... Assistant Professor of Physical Education for Women (1967)
B.S., M.S., University of Utah, 1951, 1957.

Larry C. Jensen .... Assistant Professor of Psychology (1965)
B.S., M.S., Brigham Young University, 1960, 1961; Ph.D., Michigan State University, 1966.

Mary B. Jensen .... Assistant Professor of Recreation Education (1953)
B.A., Park College of Missouri, 1939; M.A., Brigham Young University, 1963.

Reed J. Jensen .... Assistant Professor of Chemistry (1967)
B.A., Ph.D., Brigham Young University, 1960, 1965.

Vern H. Jensen .... Professor of Educational Psychology; Director of Counseling Center (1949)
B.S., M.S., Brigham Young University, 1948, 1950; Ed.D., University of Colorado, 1957.

Gloria D. Jenson .... Assistant Professor of Library and Information Sciences (1954)
B.S., Brigham Young University, 1950; M.S., Columbia University, 1954.

Ernest C. Jeppsen .... Professor of Industrial Education; Dean of the College of Industrial and Technical Education (1959)
B.S., Utah State University, 1926; M.S., Colorado State University, 1938.

J. Lorin Jex .... Assistant Professor of Speech (1949)
B.A., M.A., Brigham Young University, 1947, 1950.

Franz M. Johansen .... Assistant Professor of Art (1956)
B.A., M.A., Brigham Young University, 1955, 1960; Illinois Institute of Technology, California School of Arts and Crafts, Acadamie de la Grand Chaumiere.

Barry L. Johnson .... Instructor in Sociology (1965)
B.S., M.S., Brigham Young University, 1963, 1965.

Eldred A. Johnson .... Professor of Accounting (1955)
B.A., M.A., Brigham Young University, 1949, 1950; C.P.A., California, 1952.

H. Thayne Johnson .... Associate Professor of Library and Information Sciences (1965)
B.A., M.A., Brigham Young University, 1950, 1952; M.S., University of Southern California, 1959.

Col. L. H. Johnson .... Professor of Aerospace Studies (1968)

Lynn E. Johnson .... Assistant Professor of Psychology; Graduation and Admissions Counselor (1961)
B.A., Brigham Young University, 1958; M.A., Ph.D., University of Utah, 1959, 1962.

Dawn A. Jones .... Instructor in Mathematics (1967)
B.S., Brigham Young University, 1965.

Douglas E. Jones .... Assistant Professor of Physics (1964)
B.S., M.S., Ph.D., Brigham Young University, 1957, 1959, 1965.

J. Richard Jones .... Assistant Professor of Physical Education for Men (1961)
B.S., M.S., Brigham Young University, 1951, 1955; Ed.D., Colorado State College, 1967.

Jens J. Jonsson .... Professor of Electrical Engineering (1953)
B.S.G.E., B.S.E.E., University of Utah, 1944, 1947; M.S.E.E., Ph.D., Purdue University, 1948, 1951.

K. Paul Jordan .... Instructor in Library and Information Sciences (1967)
B.S., Brigham Young University, 1964.

Clive D. Jorgensen .... Associate Professor of Zoology (1963)
B.S., M.S., Brigham Young University, 1954, 1957; Ph.D., Oregon State University, 1964.

Eleanor Jorgensen .... Associate Professor of Clothing and Textiles (1949)
B.S., Brigham Young University, 1946; M.S., Kansas State College, 1954; Ph.D., Texas Women's University, 1965.

Percy G. Kalt .... Instructor in Music (1966)
B.S., University of Utah, 1957.

Donald V. Karr .... Instructor in Zoology (1967)

Kenneth W. Karren .... Associate Professor of Civil Engineering (1965)
B.S., M.S., University of Utah, 1953, 1961; Ph.D., Cornell University, 1965; Registered Engineer, Utah, 1959.

Reba Lou Keele .... Assistant Professor of Speech (1967)
A.S., Carbon Junior College, 1961; B.S., M.A., Brigham Young University, 1963, 1966.

Joseph J. Keeler .... Associate Professor of Music; University Organist (1935)
B.S., M.A., Brigham Young University, 1940, 1950.

Hans-Wilhelm Kelling .... Associate Professor of German (1962)
Abitur, Germany, 1952; B.A., Brigham Young University, 1958; M.A., Stanford University, 1960; Ph.D., Stanford University, 1967.

Burton C. Kelly .... Assistant Professor of Educational Psychology; Assistant Director of Counseling Center (1962)
B.S., Idaho State College, 1952; M.S., Brigham Young University, 1955; Ph.D., University of Chicago, 1966.

Ruth M. Kennington .... Assistant Professor of Nursing (1967)
B.S., Brigham Young University, 1956; M.S., University of Washington, 1964.

C. Rodney Kimball .... Instructor in Physical Education and Health (1937)
B.S., M.S., Brigham Young University, 1955, 1963.

Edwin R. Kimball .... Professor of Physical Education (1935)
B.S., Brigham Young University, 1926; M.S., University of Southern California, 1935; Ed.D., University of Oregon, 1955.

M. Douglas Kimball .... Instructor in French (1967)
B.A., M.A., University of Utah, 1953, 1964.

Alma W. King .... Assistant Professor of Religion (1956)
B.S., M.S., Brigham Young University, 1930, 1936.

Carol G. Kingsolver .... Instructor in Nursing (1964)
B.S., Brigham Young University, 1961.

Chihoko (Kitty) Kitano .... Instructor in Japanese (1967)
B.A., National Kobe University, Japan, 1961; M.A., Brigham Young University, 1967.

Hattie M. Knight .... Assistant Professor of Library and Information Sciences (1941)
B.S., Brigham Young University, 1941; B.S., University of Denver, 1943; M.S., George Peabody College for Teachers, 1951.

Leland Knight .... Clinical Instructor in Education (1967)
A.B., M.A., Chico State College, 1960, 1967.

Elmer M. Knowles .... Professor of Child Development and Family Relationships (1962)
B.S., M.S., Utah State University, 1949, 1950; Ph.D., Cornell University, 1952.

Leo Gary Lambert Instructor in French (1968)
B.A., University of California (Berkeley), 1963; M.A., University of California (Santa Barbara), 1965.

Neal E. Lambert Assistant Professor of English (1966)
B.A., Ph.D., University of Utah, 1961, 1966.

William R. Lambert Instructor in Business Management (1962)
B.S., University of Utah, 1953; M.B.A., Harvard Graduate School, 1962.

Merle E. Lamson Instructor in Library and Information Sciences (1961)
B.S., Brigham Young University, 1955; M.S., Columbia University, 1960.

Anthony J. LaPray Assistant Professor of Special Education (1964)
B.S., M.S., Utah State University, 1959, 1962; Ed.D., Brigham Young University, 1966.

A. Dean Larsen Assistant Professor of Library and Information Sciences (1956)
B.S., Brigham Young University, 1954; M.A., University of Michigan, 1960.

Don H. Larsen Professor of Microbiology (1952)
B.S., Brigham Young University, 1940; M.A., University of Nebraska, 1942; Ph.D., University of Utah, 1950.

Jean Larsen Instructor in Child Development and Family Relationships (1960)
B.S., M.S., Brigham Young University, 1953, 1960.

Kenneth M. Larsen Associate Professor of Mathematics (1960)
B.A., University of Utah, 1950; M.A., Brigham Young University, 1956; Ph.D., University of California at Los Angeles, 1964.

Vernon W. Larsen Professor of Sociology (1952)
B.A., M.A., Brigham Young University, 1949, 1950; Ph.D., Cornell University, 1957.

Clinton F. Larson Professor of English (1947)
B.A., M.A., University of Utah, 1943, 1947; Ph.D., University of Denver, 1956.

Everett Gerald Larson Associate Professor of Physics (1964)
B.S., M.S., Ph.D., Massachusetts Institute of Technology, 1957, 1959, 1964.

Gustive O. Larson Associate Professor of History and History of Religion (1954)
B.A., M.A., University of Utah, 1920, 1926.

Duane M. Laws Associate Professor of Child Development and Family Relationships (1963)
B.A., M.A., Brigham Young University, 1958, 1959; Ed.D., Teachers College at Columbia University, 1964.

W. Derby Laws Professor of Agronomy (1960)
B.A., Brigham Young University, 1939; M.S., Utah State University, 1941; Ph.D., Ohio State University, 1944.

Harold R. Laycock Professor of Music (1949)
B.A., M.A., Brigham Young University, 1937, 1947; D.M.A., University of Southern California, 1961.

Ralph G. Laycock Associate Professor of Music (1953)
B.A., Brigham Young University, 1941; M.S., Juilliard School of Music, N.Y.C., 1948.

Robert L. Layton Associate Professor of Geography (1954)
B.S., M.S., University of Utah, 1951, 1952; Ph.D., University of Syracuse, 1962.

Evelyn M. Lee Assistant Professor of Clothing and Textiles (1962)
B.S., M.S., Montana State College, 1952, 1959.

Harold W. Lee Professor of French (1937)
B.A., M.A., Brigham Young University, 1938, 1940; Ph.D., Stanford University, 1946.

Tsai-feng Mazie Lee Instructor in Chinese (1965)
B.A., Tunghai University, Taiwan, 1960.

Ben E. Lewis Vice-President for Business Affairs of the University (1952)
B.S., Brigham Young University, 1940; M.S., Denver University, 1942.

Stella Dixon Lewis Special Instructor in Housing and Home Management (1956)
B.S., M.H.Ed., Brigham Young University, 1938, 1966.

Elizabeth L. Liechty Assistant Professor of Clothing and Textiles (1952)
B.S., Utah State University, 1948; M.S., University of California at Los Angeles, 1954.

William Reinwald Liechty Instructor in General Curriculum (1966)
B.A., M.A., Brigham Young University, 1944, 1953.

Karin Likes Assistant Professor of Nursing (1966)
Diploma, Mt. Carmel Hospital, 1957; B.S., M.S., University of Utah, 1960, 1964.

Charlene Lind Instructor in Clothing and Textiles (1964)
B.S., Utah State University, 1955; M.A., University of Maryland, 1961.

Earl L. Lindley .... Instructor in Physical Education (1961)
B.S., M.S., Utah State University, 1954, 1957.

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Lt. Col. Jesse E. Lloyd .... Professor of Aerospace Studies (1967)
B.B.A., University of Texas, 1957; M.B.A., University of Oklahoma, 1963.

Wesley P. Lloyd .... Professor of Education; Dean of Graduate School (1935)
B.S., M.S., Brigham Young University, 1927, 1934; Ph.D., University of Chicago, 1937.

Lester Long .... Special Instructor in Industrial Technology (1959)
B.S., Brigham Young University, 1958.

Nancy E. Long .... Instructor in Nursing (1967)
Diploma, Holzer Hospital School of Nursing, 1959; B.S.N., Ohio State University, 1962.

Ferril A. Losee .... Professor of Electrical Engineering (1965)
B.S., University of Utah, 1953; M.S., University of Southern California, 1957.

JoAnn Louk .... Instructor in Nursing (1967)
B.S., Columbia University, 1960.

Gordon M. Low .... Professor of Speech (1964)
B.S., M.S., University of Utah, 1949, 1950; Ph.D., University of Minnesota, 1955.

Warren F. Luch .... Special Instructor in Art (1963)
Diploma, Philadelphia Museum College of Art, 1957; B.A., M.A., Brigham Young University, 1961, 1966.

Paul F. Luckau .... Assistant Professor of German (1964)
B.A., M.A., University of Utah, 1949, 1955.

Daniel H. Ludlow .... Professor of Scripture; Dean of the College of Religious Instruction (1955)
B.S., Utah State University, 1946; M.S., Indiana University, 1953; Ed.D., Columbia University, 1955.

Col. David R. Lyon .... Professor of Military Science (1968)
B.A., University of Utah, 1941; M.S., George Washington University, 1966.

Marilyn Cleo Lyons .... Assistant Professor of Nursing (1966)
B.S., University of Utah, 1960; M.A., New York University, 1966.

Peter Lysenko .... Instructor in Russian (1963)
B.S., Brigham Young University, 1958; M.A., Indiana University, 1963.

Eldon G. Lytle .... Instructor in Linguistics (1968)
B.A., M.A., Brigham Young University, 1961, 1962.

LeRay L. McAllister .... Assistant Professor of Accounting (1963)
B.A., Brigham Young University, 1957; M.S., Arizona State University, 1960; C.P.A., Utah, 1962.

Ross "J" McArthur .... Professor of Industrial Education (1956)
B.S., M.S., Utah State University, 1949, 1953; Ed.D., University of Missouri, 1955.

Myron William McIntyre .... Assistant Professor of English (1967)
B.A., Sacramento State College, 1951; M.A., Ph.D., University of California (Berkeley), 1958, 1965.

J. Glen McKellar .... Assistant Professor of English (1964)
B.A., M.A., Brigham Young University, 1960, 1962; Ph.D., University of Colorado, 1967.

John E. McKendrick .... Associate Professor of English (1953)
B.A., M.A., University of Utah, 1942, 1949.

Lynn A McKinlay .... Assistant Professor of Communications (1955)
Certificate, Post Graduate Certificate, Pasadena Community Playhouse, College of Theatre Arts, 1936, 1937.

Max E. McKinnon .... Assistant Professor of Industrial Technology (1957)
B.S., M.S., Utah State University, 1949, 1954.

Maughan W. McMurdie .... Special Instructor in Music (1959)
B.S., Utah State University, 1954.

Delbert H. McNamara .... Professor of Physics (1955)
B.S., Ph.D., University of California (Berkeley), 1947, 1950.

Melvin P. Mabey .... Professor of History and Political Science (1955)
B.S., M.A., Brigham Young University, 1947, 1953; D. Phil., Oxford University (England), 1955.

Thomas W. Mackay .... Instructor in Classical Languages (1964)
B.A., M.A., Brigham Young University, 1963, 1966.

Harold S. Madsen .... Assistant Professor of English (1956)
B.A., M.A., University of Utah, 1953, 1960; Ph.D., University of Colorado, 1965.

Truman G. Madsen .... Professor of Philosophy (1957)
B.S., M.S., University of Utah, 1951, 1952; A.M., Ph.D., Harvard University, 1957, 1960.

Francis R. Magleby .... Assistant Professor of Art (1959)
B.S., M.S., Brigham Young University, 1950, 1951.

John H. Mangum .... Associate Professor of Chemistry (1963)
B.S., M.S., Brigham Young University, 1957, 1959; Ph.D., University of Washington, 1963.

Robert P. Manookin .... Assistant Professor of Music (1959)
B.A., Brigham Young University, 1955; M.Mus., University of Illinois, 1959; Ph.D., University of Utah, 1967.

H. Carleton Marlow .... Associate Professor of History (1964)
B.S., M.S., Brigham Young University, 1958, 1959; Ph.D., University of Oklahoma, 1966.

John F. Marshall .... Special Instructor in Art (1967)
B.F.A., Brigham Young University, 1966.

James Mason .... Assistant Professor of Music (1962)
B.A., M.A., Brigham Young University, 1955, 1957.

Ray T. Matheny .... Assistant Professor of Anthropology and Archaeology (1965)
B.A., M.A., Brigham Young University, 1960, 1962.

Conan E. Mathews .... Professor of Art; Dean Emeritus of the College of Fine Arts and Communications (1956)
B.A., College of Idaho, 1936; M.F.A., University of Utah, 1950; California School of Fine Arts, Columbia University.

Karen LaRee Matthews .... Instructor in Library and Information Sciences (1966)
B.A., Brigham Young University, 1963; M.A., University of Denver, 1964.

Leonard Roy Mavor .... Instructor in Recreation Education (1967)
Teacher's Certificate, Claremont College, 1961; B.S., Brigham Young University, 1967.

D. Eugene Mead .... Assistant Professor of Child Development and Family Relationships (1967)
B.A., University of Oregon, 1956; M.A., San Jose State College, 1963; Ph.D., University of Oregon, 1967.

J. Keith Melville .... Professor of Political Science (1957)
B.A., University of Utah, 1947; M.A., University of California, 1956; Ph.D., University of Utah, 1959.

Ella E. Merrill .... Assistant Professor of Nursing (1965)
Diploma, Thomas D. Dee Memorial Hospital, 1950; B.S., University of Utah, 1956; M.P.H., University of California, 1964.

Heber Kent Merrill .... Assistant Professor of Psychology (1967)
B.A., M.A., Brigham Young University, 1960, 1961; Ph.D., University of Utah, 1968.

M. David Merrill .... Associate Professor of Graduate Education (1966)
B.A., Brigham Young University, 1961; M.A., Ph.D., University of Illinois, 1964, 1964.

Keith H. Meservy .... Assistant Professor of Religious Instruction (1958)
B.A., Brigham Young University, 1951; M.A., Johns Hopkins University, 1966.

Charles L. Metten .... Associate Professor of Dramatic Arts (1962)
B.A., M.A., University of California at Los Angeles, 1951, 1952; Ph.D., State University of Iowa, 1960.

Elaine Michaelis .... Instructor in Physical Education for Women (1960)
B.S., M.S., Brigham Young University, 1960, 1962.

Louis C. Midgley .... Associate Professor of Political Science (1963)
B.S., M.S., University of Utah, 1954, 1957; Ph.D., Brown University, 1964.

Seymour Mikkelsen .... Instructor in Animal Science; Manager, Dairy Farm (1956)
B.S., Brigham Young University, 1948.

Elva K. Miller .... Clinical Instructor in Education (1955)
B.S., Brigham Young University, 1947.

Martin L. Miller .... Assistant Professor of Physics and Mathematics (1942)
B.A., M.A., Brigham Young University, 1942, 1950.

Floyd Millet .... Assistant Professor of Physical Education; Director of Athletics (1964)
B.A., Brigham Young University, 1934; M.S., University of Southern California, 1939.

Marion T. Millett .... Associate Professor of Geography (1958)
B.A., University of Southern California, 1954; M.A., University of Colorado, 1956; Ph.D. McGill University, Canada, 1965.

Gayle F. Miner Assistant Professor of Electrical Engineering (1960)
B.S., M.S., University of Utah, 1959, 1960.

Albert O. Mitchell Professor of Dramatic Arts (1956)
B.S., M.S., University of Utah, 1933, 1935; Ph.D., University of Wisconsin, 1938.

Olive Kimball B. Mitchell Assistant Professor of English (1947)
B.A., University of Arizona, 1932; M.A., Brigham Young University, 1934.

Rudy Moe Assistant Professor of Physical Education (1959)
B.A., Concordia College, Moorhead, Minnesota, 1953; M.S., Brigham Young University, 1962.

J. C. Moffitt Professor of Educational Administration (1953)
B.S., M.S., Brigham Young University, 1926, 1929; Ph.D., University of Chicago, 1940.

J. Weldon Moffitt Professor of Psychology (1963)
B.S., Brigham Young University, 1949; M.S., University of Utah, 1950; Ph.D., University of Illinois, 1953.

Carolee Moncur Instructor in Health and Safety Education (1967)
B.S., M.S., Brigham Young University, 1962, 1966.

Darrel J. Monson Associate Professor of Electrical Engineering (1956)
B.S., University of Utah, 1943; M.S., University of California (Berkeley), 1952.

Harold K. Moon Associate Professor of Spanish (1963)
B.A., M.A., Brigham Young University, 1957, 1959; Ph.D., Syracuse University, 1963.

Barbara B. Moore Instructor in Mathematics (1966)
B.S., Purdue University, 1963; M.S., Brigham Young University, 1966.

Glen Moore Professor of Botany (1958)
B.S., Brigham Young University, 1949; Ph.D., University of Chicago, 1954.

Hal G. Moore Associate Professor of Mathematics (1961)
B.S., M.S., University of Utah, 1952, 1957; Ph.D., University of California (Santa Barbara), 1967.

Paul Caine Moore Assistant Professor of Speech (1966)
B.S., M.S., University of Utah, 1951, 1958.

Bruce Lee Morgenegg Instructor in Physical Education for Men (1966)
B.S., Colorado State University, 1964; M.S., Brigham Young University, 1965.

Alonzo J. Morley Professor of Speech (1928)
B.A., M.A., Brigham Young University, 1925, 1931; Ph.D., University of Iowa, 1935.

Edwin B. Morrell Associate Professor of Political Science (1961)
B.A., Brigham Young University, 1956; M.A., Ph.D., Harvard University, 1959, 1966.

Jeannette Morrell Assistant Professor of English (1956)
B.A., M.A., University of Utah, 1933, 1935.

A. Reed Morrill Professor of Educational Administration (1948)
B.S., M.S., Brigham Young University, 1928, 1937; Ed.D., University of Oregon, 1948.

Reed S. Morrill Counselor in Counseling Center; Instructor in Psychology (1964)
B.A., Brigham Young University, 1956; M.S., University of Utah, 1964.

Lawrence Morris Professor of Animal Science (1952)
B.S.A., University of Arizona, 1925; M.S., Texas A. & M., 1928; Ph.D., Louisiana State University, 1938.

Kay S. Mortensen Assistant Professor of Industrial Technology (1968)
B.S., M.S., Utah State University, 1962, 1963; Ph.D., University of Utah, 1967.

Darrell L. Moses Associate Professor of Educational Psychology (1959)
B.A., M.A., University of Utah, 1952, 1953; Ph.D., University of Southern California, 1960.

J. Joel Moss Professor of Child Development and Family Relationships (1961)
B.S., M.S., Brigham Young University, 1948, 1949; Ph.D., University of North Carolina, 1954.

Marjorie Jo Mueller Instructor in Library and Information Sciences (1967)
B.S., Arizona State College, 1962; M.A., University of Denver, 1963.

Alan Edward Muller Assistant Professor of Sociology (1966)
B.S., Brigham Young University, 1960; M.A., University of Connecticut, 1962.

Joseph R. Murdock Professor of Botany (1952)
B.S., M.S., Brigham Young University, 1949, 1951; Ph.D., Washington State University, 1956.

Elaine P. Murphy Assistant Professor of Nursing; Acting Dean of the College of Nursing (1967)
R.N., B.S., M.S., University of Utah, 1948, 1959, 1963.

Joseph R. Murphy .... Associate Professor of Zoology (1960)
B.A., M.A., Brigham Young University, 1950, 1951; Ph.D., University of Nebraska, 1957.

Merlin G. Myers .... Associate Professor of Anthropology and Archaeology (1963)
B.A., Brigham Young University, 1951; Ph.D., University of Cambridge, 1963.

Keith L. Naegle .... Special Instructor in Industrial Technology (1961)
B.S., Utah State University, 1954; M.S., Brigham Young University, 1967.

Beverley Nalder .... Instructor in Counseling Center (1965)
B.S., Brigham Young University, 1952; M.S., University of Utah, 1965.

Clyde R. Naylor .... Assistant Professor of Civil Engineering (1964)
B.E.S., M.S., Brigham Young University, 1960, 1962; Registered Engineer, Utah, 1964.

Jay H. Naylor .... Assistant Professor of Recreation Education (1961)
B.S., M.S., Brigham Young University, 1958, 1959.

Donald K. Nelson .... Assistant Professor of Library and Information Sciences; Director of the Library (1961)
B.S., Utah State University, 1938; M.B.A., University of Denver, 1949.

George Edward Nelson .... Assistant Professor of Business Education (1968)
B.S., M.S., University of Utah, 1965, 1966; Ed.D., Arizona State University, 1968.

Glen T. Nelson .... Professor of Economics (1954)
B.S., M.S., Utah State University, 1942, 1948; Ph.D., University of Illinois, 1950.

H. Mark Nelson .... Associate Professor of Physics (1959)
B.S., M.S., Brigham Young University, 1953, 1954; Ph.D., Harvard University, 1960.

K. LeRoi Nelson .... Professor of Chemistry (1956)
B.S., Utah State University, 1948; Ph.D., Purdue University, 1952.

Marvin N. Nelson .... Clinical Instructor in Elementary Education (1959)
B.S., M.S., Brigham Young University, 1951, 1961.

Zane P. Nelson .... Instructor in Sociology (1967)
B.A., Brigham Young University, 1965; M.A., University of Wyoming, 1967.

Parley W. Newman .... Professor of Speech (1966)
B.S., M.S., Utah State University, 1950, 1951; Ph.D., State University of Iowa, 1954.

Hugh W. Nibley .... Professor of History and Religion (1946)
B.A., University of California at Los Angeles, 1934; Ph.D., University of California, 1938.

Henry J. Nicholes .... Professor of Zoology and Entomology (1946)
B.A., Brigham Young University, 1935; Ph.D., University of Wisconsin, 1941.

Fred K. Nielsen .... Instructor in Physics (1956)
B.A., M.A., Harvard University, 1954, 1955.

Lorna R. Nielsen .... Instructor in English (1961)
B.A., M.A., Brigham Young University, 1956, 1962.

Eve Nielson .... Instructor in Library and Information Sciences (1949)
B.S., Utah State University, 1945; M.S., University of Southern California, 1959.

Howard C. Nielson .... Professor of Statistics (1957)
B.S., University of Utah, 1947; M.S., University of Oregon, 1949; M.B.A., Ph.D., Stanford University, 1956, 1957.

Dale LeRoy Nish .... Assistant Professor of Industrial Education (1967)
B.S., M.S., Brigham Young University, 1957, 1958; Ed.D., Washington State University, 1967.

John D. Nixon .... Instructor in Library and Information Sciences (1961)
B.S., Brigham Young University, 1957; M.A., University of Denver, 1961.

Quentin R. Nordgren .... Professor of Music (1955)
B.A., M.A., Brigham Young University, 1942, 1950; Ph.D., Indiana University, 1955.

James A. North .... Associate Professor of Microbiology (1965)
B.S., M.S., Brigham Young University, 1958, 1960; Ph.D., University of Utah, 1964.

Don Evan Norton .... Instructor in English (1967)
B.A., M.A., Brigham Young University, 1959, 1961.

Monte S. Nyman .... Assistant Professor of Religious Instruction (1966)
B.S., M.S., Utah State University, 1952, 1958; Ed.D., Brigham Young University, 1965.

Carol Oaks .... Instructor in Library and Information Sciences (1962)
B.A., Brigham Young University, 1943; M.A., University of Chicago, 1946.

Clinton L. Oaks .... Professor of Business Management (1957)
B.A., Brigham Young University, 1948; M.B.A., Ph.D., Stanford University, 1950, 1955.

Mamoru Ogata .... Assistant Professor of Economics (1966)
B.A., Brigham Young University, 1962; M.A., University of California at Berkeley, 1966.

J. Lloyd Olpin .... Associate Professor of Mathematics (1955)
B.S., Brigham Young University, 1925; M.S., Colorado University, 1938.

Burton K. Olsen .... Instructor in Recreation Education (1965)
B.S., M.S., Brigham Young University, 1963, 1964.

Ernest L. Olson .... Assistant Professor of English; Director of University Press (1953)
B.A., M.A., University of Utah, 1948, 1949.

John E. Ord .... Associate Professor of Elementary Education (1957)
B.S., Utah State University, 1940; M.S., University of Utah, 1949; Ed.D., Stanford University, 1958.

Scott G. Orrock .... Instructor in Child Development and Family Relationships; Counselor in Counseling Center (1953)
B.A., M.A., Brigham Young University, 1952, 1953.

Bryce B. Orton .... Professor of Accounting (1961)
B.S., Brigham Young University, 1951; M.B.A., University of Oregon, 1957; D.B.A. University of Washington, 1962.

J. Bevan Ott .... Associate Professor of Chemistry (1960)
B.S., M.S., Brigham Young University, 1955, 1956; Ph.D., University of California, 1959.

Glen F. Ovard .... Professor of Educational Administration (1959)
B.S., M.S., Brigham Young University, 1949, 1954; Ed.D., Stanford University, 1959.

Earl LeRoy Overstreet .... Assistant Professor of Health and Safety Education (1967)
B.S., Brigham Young University, 1961; M.S., University of Utah, 1964; Ed.D., West Virginia University, 1967.

Ronald T. Pace .... Instructor in Animal Science (1961)
B.S., M.S., Brigham Young University, 1955, 1958.

Russell T. Pack .... Assistant Professor of Chemistry (1967)
B.S., Brigham Young University, 1962; Ph.D., University of Wisconsin, 1967.

Thane J. Packer .... Associate Professor of Youth Leadership and Recreation Education (1959)
B.S., Utah State University, 1939; M.S., Brigham Young University, 1963.

Edna Page .... Professor of Food and Nutrition (1966)
B.S., Utah State University, 1934; M.A., Columbia University, 1940; Ph.D., University of Wisconsin, 1952.

E. Paul Palmer .... Associate Professor of Physics (1966)
B.A., Ph.D., University of Utah, 1952, 1956.

Glen O. Palmer .... Instructor in Accounting (1964)
B.S., M.Acctg., Brigham Young University, 1961, 1963; C.P.A., State of New Mexico, 1963.

Spencer J. Palmer .... Associate Professor of History of Religion (1962)
B.A., Brigham Young University, 1952; M.A., Ph.D., University of California (Berkeley), 1959, 1964.

Robert Lynn Park .... Associate Professor of Animal Science (1965)
B.S., Brigham Young University, 1956; M.S., Ph.D., Cornell University, 1958, 1962.

Karen F. Parker .... Instructor in English (1961)
B.S., M.A., Brigham Young University, 1956, 1962.

Robert E. Parsons .... Assistant Professor of Religious Instruction (1964)
B.S., M.S., Brigham Young University, 1954, 1957.

Robert C. Patch .... Associate Professor of Scripture (1959)
B.A., University of New Mexico, 1945; M.Th., Ph.D., Brigham Young University, 1949, 1964.

Edward G. Paul .... Assistant Professor of Chemistry (1964)
B.S., Ph.D., University of Utah, 1958, 1962.

I. Reed Payne .... Student Counselor and Associate Professor of Psychology (1964)
B.S., Brigham Young University, 1956; M.S., Ph.D., Pennsylvania State University, 1958, 1963.

John David Payne .... Instructor in Physical Education for Men; Assistant Football Coach (1966)
B.S., Oklahoma State University, 1956.

John W. Payne .... Associate Professor of Sociology (1947)
B.A., M.A., Brigham Young University, 1936, 1948.

Wayne E. Pearce .... Instructor of Business Management; Tennis Coach (1963)
B.S., M.B.A., University of Utah, 1960, 1961.

Glenn L. Pearson .... Associate Professor of Scripture (1951)
B.S., Utah State University, 1949; M.A., Brigham Young University, 1951.

Darhl M. Pedersen .... Associate Professor of Psychology (1962)
B.S., M.S., Brigham Young University, 1957, 1958; Ph.D., University of Illinois, 1962.

Devern J. Perry .... Assistant Professor of Business Education (1963)
B.S., M.S., Brigham Young University, 1958, 1962.

Melvin J. Petersen .... Assistant Professor of Religious Education (1964)
B.S., M.S., Ed.D., Brigham Young University, 1948, 1955, 1964.

Morris S. Petersen .... Associate Professor of Geology (1966)
B.S., M.S., Brigham Young University, 1955, 1956; Ph.D., University of Iowa, 1962.

Betty J. Petersen .... Associate Professor of Business Education (1963)
B.S., Utah State University, 1958; M.A., Columbia University, 1960.

Clarence P. Peterson .... Instructor in Mathematics (1965)
B.S., M.S., Utah State University, 1960, 1962.

Dean A. Peterson .... Professor of Business Education; Administrative Assistant to the President; Director of Summer School (1942)
B.S., Brigham Young University, 1938; M.S., Ed.D., University of Southern California, 1942, 1959.

Elwood R. Peterson .... Instructor in Teacher Education; Counselor in Counseling Center (1964)
B.A., M.A., Brigham Young University, 1957, 1962.

Evan T. Peterson .... Professor of Sociology (1959)
B.S., M.S., Brigham Young University, 1952, 1953; Ph.D., University of Michigan, 1959.

Gary Leonard Peterson .... Assistant Professor of Speech (1966)
B.S., University of Utah, 1960; M.A., Ph.D., Ohio University, 1961, 1965.

Gerald E. Peterson .... Assistant Professor of Mathematics (1966)
B.S., M.A., Ph.D., University of Utah, 1961, 1963, 1965.

H. Donl Peterson .... Associate Professor of Religious Education (1964)
B.S., M.Ed., Brigham Young University, 1954, 1960; Ed.D., Washington State University, 1965.

John M. Peterson .... Assistant Professor of Mathematics (1965)
B.S., M.S., Ed.D., Utah State University, 1961, 1964, 1965.

Boyd G. Pett .... Assistant Professor of Engineering Technology (1961)
B.S., M.S., Utah State University, 1954, 1961.

Robert Douglas Phillips .... Assistant Professor of Classical Languages (1966)
B.A., Brigham Young University, 1962; M.A., University of Illinois, 1964.

W. Revell Phillips .... Professor of Geology (1957)
B.S., M.S., Ph.D., University of Utah, 1950, 1951, 1954.

Rex D. Pinegar .... Associate Professor of Special Education (1965)
B.S., Brigham Young University, 1958; M.A., San Francisco State College, 1962.

James Kent Pinney .... Assistant Professor of Business Management (1967)
B.A., University of Utah, 1962; M.B.A., Indiana University, 1964.

Richard D. Poll .... Professor of History and Political Science (1948)
B.A., M.A., Texas Christian University, 1938, 1939; Ph.D., University of California (Berkeley), 1948.

Paul C. Pollei .... Instructor in Music (1963)
B.M., University of Utah, 1961; M.M., University of Rochester, 1962.

J. Perry Polson .... Associate Professor of Business Education (1952)
B.S., M.S., University of Utah, 1947, 1952; Ed.D., University of Southern California, 1961.

Bill J. Pope .... Professor of Chemical Engineering (1958)
B.S., University of Utah, 1947; M.S., Ph.D., University of Washington, 1948, 1959.

Karl Theodore Pope .... Assistant Professor of Dramatic Arts (1966)
B.A., M.A., Brigham Young University, 1962, 1964; Ph.D., Wayne State University, 1966.

Blaine R. Porter .... Professor of Child Development and Family Relationships; Dean of the College of Family Living (1955)
B.S., M.A., Brigham Young University, 1947, 1949; Ph.D., Cornell University, 1952.

Norma Potter Assistant Professor of Nursing (1953)
Diploma, Latter-day Saints Hospital, Salt Lake City, 1931; B.S., University of Utah, 1950; M.N., University of Washington, 1961.

Jenniev J. Poulson Associate Professor of Housing and Home Management (1963)
B.S., Brigham Young University, 1933; M.S., Ph.D., Iowa State University, 1954, 1964.

Virginia B. Poulson Assistant Professor of Home Economics Education (1950)
B.S., Brigham Young University, 1931; M.Ed., Colorado A. & M., 1955.

David Heber Pratt Special Instructor in Genealogical Technology (1966)
B.A., Brigham Young University, 1963.

Larry B. Prestwich Special Instructor in Art (1966)
B.F.A., University of Utah, 1961; M.A., Brigham Young University, 1966.

Alvin Harold Price Assistant Professor of Child Development and Family Relationships (1966)
B.S., Brigham Young University, 1960; M.A., Ph.D., University of Minnesota, 1963, 1966.

Clyde Lee Pritchett Instructor in Zoology (1967)
B.S., M.S., Brigham Young University, 1960, 1962.

Della D. Provost Clinical Instructor in Elementary Education (1964)
B.S., University of Utah, 1957.

Eldon H. Puckett Assistant Professor of Teacher Education (1965)
B.A., Ed.D., Brigham Young University, 1949, 1967.

Victor W. Purdy Assistant Professor of Library and Information Sciences (1954)
B.S., Brigham Young University, 1952; M.S., Columbia University, 1957.

Cpt. Richard E. Radichel Assistant Professor of Aerospace Studies (1967)
B.S., Brigham Young University, 1959.

Sgt. Ronald A. Ramirez Instructor in Aerospace Studies (1967)

Cpt. Theron Randall Assistant Professor of Aerospace Studies (1968)

Mima Rasband Clinical Instructor in Education (1952)
B.S., M.S., Brigham Young University, 1937, 1950.

Ellis T. Rasmussen Assistant Professor of Old Testament Languages and Literature (1951)
B.S., M.A., Ph.D., Brigham Young University, 1942, 1951, 1967.

Thomas L. Raty Instructor in Art (1963)
B.S., M.S., Brigham Young University, 1950, 1961.

Lynn A. Ravsten Counselor in Counseling Center; Instructor in Psychology (1957)
B.S., Brigham Young University, 1953; M.A., Stanford University, 1956; Ph.D., University of Utah, 1966.

Susan E. Ream Instructor in English (1961)
B.A., Brigham Young University, 1953; M.A., Columbia Teachers College, 1958.

Jesse W. Reeder Professor of History and Political Science (1952)
B.S., M.S., Utah State University, 1934, 1937; Ph.D., Cornell University, 1952.

Howard T. Reid Professor of Personnel and Guidance (1953)
B.A., Brigham Young University, 1940; M.S., Ed.D., University of Southern California, 1947, 1949.

Ernest F. Reimschüssel Associate Professor of Horticulture (1942)
B.A., M.S., Brigham Young University, 1940, 1951.

Alvin C. Rencher Instructor in Mathematics (1963)
B.S., M.A., Brigham Young University, 1959, 1962.

Ronald L. Rhodes Assistant Professor of Health Education (1962)
B.S., Elmhurst College, 1957; M.S., Brigham Young University, 1962.

Owen S. Rich Professor of Communications (1950)
B.S., Brigham Young University, 1950; M.A., University of Southern California, 1953; Ed.D., Pennsylvania State University, 1963.

Russell R. Rich Professor of History of Religion (1953)
B.S., Utah State University, 1936; M.A., Brigham Young University, 1949; Ed.D., University of Wyoming, 1955.

Dale O. Richards Professor of Statistics (1963)
B.S., Utah State University, 1950; M.S., Ph.D., Iowa State University, 1957, 1963.

J. Morris Richards Associate Professor of Communications (1965)
B.A., Arizona State College, 1929; M.A., University of Arizona, 1937.

Jed J. Richardson .... Assistant Professor of Speech (1955)
B.S., M.S., Utah State University, 1950, 1955.

Norma Richardson .... Instructor in Associate-Degree Nursing (1967)
B.S., University of Utah, 1956; M.A., New York University, 1966.

Dean Rickenbach .... Associate Professor of Economics (1963)
B.S., Brigham Young University, 1954; M.S., Stanford University, 1957; Ph.D., Indiana University, 1963.

Eldin Ricks .... Assistant Professor of Religious Instruction (1949)
B.S., Brigham Young University, 1941; M.A., University of Southern California, 1949.

Chauncey C. Riddle .... Professor of Philosophy (1952)
B.S., Brigham Young University, 1947; M.A., Columbia University, 1951; Ph.D., Columbia University, 1958.

Ted E. Ridenhour .... Assistant Professor of English (1959)
B.A., M.A., Brigham Young University, 1957, 1960.

J. Keith Rigby .... Professor of Geology (1953)
B.S., M.S., Brigham Young University, 1948, 1949; Ph.D., Columbia University, 1952.

W. Dean Rigby .... Instructor in General Curriculum (1966)
B.A., Brigham Young University, 1953.

Marvin Roberson .... Instructor in Physical Education for Men (1966)
B.S., Brigham Young University, 1957; M.S., Stanford University, 1963.

Burton W. Robinson .... Professor of Clinical Psychology (1955)
B.S., M.S., Utah State University, 1951; Ph.D., Purdue University, 1954.

Donald W. Robinson .... Professor of Mathematics (1956)
B.S., M.A., University of Utah, 1948, 1952; Ph.D., Case Institute of Technology, 1956.

Clarence F. Robison .... Associate Professor of Health and Physical Education; Head Track Coach (1948)
B.S., Brigham Young University, 1949; M.S., University of Michigan, 1954.

R. Max Rogers .... Professor of German (1945)
B.A., M.A., Brigham Young University, 1940, 1942; Ph.D., Stanford University, 1951.

Norma Rohde .... Associate Professor of Educational Psychology; Counselor in Counseling Center (1965)
B.A., University of Utah, 1949; M.A., Columbia University, 1958; Ed.D., Brigham Young University, 1965.

Boyd C. Rollins .... Associate Professor of Child Development and Family Relationships (1963)
B.S., Utah State University, 1953; M.S., Brigham Young University, 1958; Ph.D., Cornell University, 1961.

Leslie McKay Rollins .... Instructor in Health and Safety Education (1962)
B.S., M.S., Brigham Young University, 1961, 1962.

Ralph L. Rollins .... Professor of Civil Engineering (1956)
B.S., M.S., Utah State University, 1941, 1949; Ph.D., Iowa State University, 1954; Registered Engineer, Utah, 1958, Nevada, 1967.

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Antone K. Romney .... Professor of Education; Dean of the College of Education (1945)
B.S., M.S., Brigham Young University, 1933, 1934; Ed.D., Stanford University, 1947.

Keith L. Roos .... Instructor in German (1968)
B.A., University of Utah, 1964; Ph.D., Rice University, 1968.

Harold E. Rosen .... Associate Professor of Spanish (1963)
B.A., M.A., Brigham Young University, 1954, 1959; Ph.D., University of Oregon, 1966.

Elmo S. Roundy .... Associate Professor of Physical Education (1963)
B.S., M.Ed., Brigham Young University, 1953, 1956; Ed.D., University of California at Los Angeles, 1965.

Frances Louise Roylance .... Special Instructor in Physical Education for Women (1966)
B.S., Brigham Young University, 1964.

Richard D. Sagers .... Professor of Microbiology (1958)
B.S., M.S., Brigham Young University, 1954, 1955; Ph.D., University of Illinois, 1958.

Richard D. Salazar .... Instructor in Health and Safety Education (1963)
B.S., M.S., Brigham Young University, 1958, 1962.

Carma Sandberg .... Clinical Instructor in Education (1957)
B.A., M.A., Brigham Young University, 1932, 1960.

Clyde D. Sandgren .... Vice-President and General Counsel; Professor of Political Science (1954)
B.S., Brigham Young University, 1937; LL.B., St. John's University, 1939.

Lawrence W. Sardoni .... Professor of Music (1945)
B.A., M.A., Brigham Young University, 1935, 1946.

Ethel H. Saunders .... Assistant Professor of Associate-Degree Nursing (1966)
R.N., LDS Hospital School of Nursing, 1934; B.S., University of Utah, 1957; M.S., University of Utah, 1963.

Alice M. Schmidt .... Assistant Professor of Nursing (1965)
B.S., State University of Iowa, 1947; M.S., Brigham Young University, 1964.

Donald T. Schmidt .... Assistant Professor of Library and Information Sciences (1959)
B.A., M.A., State University of Iowa, 1947, 1949; M.A., University of Denver, 1964.

Richard Schmutz .... Assistant Professor of History (1966)
B.A., San Fernando State College, 1960; Ph.D., University of Southern California, 1966.

Duane R. Schow .... Special Instructor in Industrial Technology (1965)
B.S., Utah State University, 1963.

June Searle .... Clinical Instructor in Education (1961)
B.S., Brigham Young University, 1958.

John F. A. Seggar .... Assistant Professor of Sociology (1966)
B.S., Brigham Young University, 1962; M.A., University of Kentucky, 1964.

Sterling D. Sessions .... Associate Professor of Business Management (1961)
B.A., Brigham Young University, 1949; M.A., New York University, 1950; D.B.A., Harvard University, 1962.

Carla Sevy .... Instructor in Housing and Home Management (1967)
B.S., Brigham Young University, 1961; M.S., Iowa State University, 1967.

Donald D. Shaw .... Associate Professor of Health and Safety Education and Recreation Education (1959)
B.A., M.S., Brigham Young University, 1957, 1961; Ed.D., Oregon State University, 1965.

Lyman S. Shreeve, Sr. .... Assistant Professor of Spanish (1965)
B.A., M.A., Brigham Young University, 1949, 1950.

R. Phil Shumway .... Professor of Animal Science (1949)
B.S., Utah State University, 1947; M.S., University of Minnesota, 1949; Ph.D., Utah State University, 1959.

Elbert R. Simmons .... Assistant Professor of Zoology and Entomology (1956)
B.S., Utah State University, 1941; M.A., State University of Iowa, 1943.

John M. Simonsen .... Professor of Mechanical Engineering (1954)
B.S.M.E., University of Utah, 1950; M.S.M.E., Ph.D., Purdue University, 1952, 1955; Registered Professional Engineer, Utah, 1957.

R. Vencil Skarda, Jr. .... Assistant Professor of Mathematics (1965)
B.A., Pomona College, 1961; M.S., Ph.D., California Institute of Technology, 1964, 1965.

Karl M. Skousen .... Professor of Accounting (1958)
B.S., M.S., Brigham Young University, 1944, 1957; C.P.A., Utah, 1957; Ph.D., Michigan State University, 1962.

W. Cleon Skousen .... Associate Professor of Religious Instruction (1967)
LL.B., George Washington University, 1940.

J. Keith Slade .... Assistant Professor of French (1963)
B.A., University of Arizona, 1959; M.A., Brigham Young University, 1960.

Arthur D. Slater .... Assistant Professor of Personnel and Guidance (1956)
B.S., Brigham Young University, 1948; M.S., Tulane University, 1950.

Robert H. Slover .... Associate Professor of Political Science (1965)
B.A., University of Oklahoma, 1935; M.A., Ph.D., Harvard University, 1948, 1950.

Merrill J. Smart .... Assistant Professor of Electronics Engineering Technology (1967)
B.S., Brigham Young University, 1959; M.S., University of Utah, 1962.

Carol T. Smith .... Assistant Professor of Library and Information Sciences (1949)
B.A., Brigham Young University, 1940; M.S., University of Southern California, 1962.

Harold T. Smith .... Assistant Professor of Business Education (1963)
B.A., M.A., Colorado State College, 1958, 1959; Ed.D., Brigham Young University, 1967.

Kay H. Smith .... Associate Professor of Psychology (1961)
B.A., M.A., Brigham Young University, 1957, 1958; Ph.D., Wayne State University, 1962.

Marion K. Smith .... Instructor in English (1964)
B.A., M.A., Brigham Young University, 1961, 1966.

Marvin A. Smith .... Assistant Professor of Chemistry (1966)
B.S., Utah State University, 1960; M.S., Ph.D., University of Wisconsin, 1962, 1966.

Milton Smith .... Instructor in Business Management (1966)
B.A., M.B.A., University of Utah, 1951, 1961.

Murray F. Smith .... Associate Professor of German (1962)
B.A., University of Utah, 1956; M.A., Ph.D., University of Southern California, 1961, 1967.

Nathan M. Smith .... Instructor in Library and Information Sciences (1967)
B.S., Eastern Oregon College, 1961; M.S., Oregon State College, 1965.

Oliver R. Smith .... Professor of Communications (1938)
B.A., Brigham Young University, 1938; Ph.D., State University of Iowa, 1951.

Ralph B. Smith .... Professor of Education (1963)
B.S., Brigham Young University, 1943; M.A., University of Southern California, 1947; Ed.D., Brigham Young University, 1962.

Robert Bailey Smith .... Instructor in Music (1967)
B.A., M.A., Brigham Young University, 1957, 1967.

Robert J. Smith .... Professor of Accounting (1949)
B.S., Brigham Young University, 1948; M.B.A., Northwestern University, 1949; C.P.A., Illinois, 1949; C.P.A., Utah, 1950; D.B.A., Indiana University, 1957.

Wilford E. Smith .... Professor of Sociology (1948)
B.A., University of Utah, 1943; M.A., Brigham Young University, 1948; Ph.D., University of Washington, 1952.

Rulon N. Smithson .... Assistant Professor of French (1955)
B.A., M.A., Brigham Young University, 1954, 1955.

Leon Douglas Smoot .... Assistant Professor of Chemical Engineering (1967)
B.S., Brigham Young University, 1957; M.S., Ph.D., University of Washington, 1958, 1960.

Richard L. Snow .... Professor of Chemistry (1957)
B.S., Ph.D., University of Utah, 1953, 1957.

Emory O. Sonderegger .... Assistant Professor of Accounting (1960)
B.S., M.S., Brigham Young University, 1956, 1957; C.P.A., Utah, 1963.

Irene Osmond Spears .... Professor of English (1936)
B.A., Brigham Young University, 1929; M.A., Ph.D., Stanford University, 1934, 1942.

Walter H. Speidel .... Associate Professor of German (1963)
Abitur, Germany, 1940; State Examination, Germany, 1948; M.A., University of Utah, 1960; Ph.D., University of Kansas, 1963.

Sidney B. Sperry .... Professor of Old Testament Languages and Literature (1932)
B.A., University of Utah, 1917; M.A., Ph.D., University of Chicago, 1926, 1931.

Wayne L. Startin .... Instructor in Physical Education (1964)
B.S., Brigham Young University, 1959.

Dale John Stevens .... Assistant Professor of Geography (1966)
B.A., Brigham Young University, 1961; M.A., Indiana University, 1963.

J. Grant Stevenson .... Assistant Professor of Religious Instruction (1964)
B.S., M.A., Brigham Young University, 1953, 1955.

Duane W. Stewart .... Instructor in Child Development and Family Relationships (1967)
A.S., College of Southern Utah, 1959; B.S., M.S., Brigham Young University, 1961, 1965.

Grace Nixon Stewart .... Assistant Professor of Dramatic Arts (1960)
B.S., Brigham Young University, 1921; L.R.A.M., London University, 1926; M.A., Columbia University, 1940.

David V. Stimpson .... Associate Professor of Psychology (1964)
B.S., M.S., Brigham Young University, 1959, 1960; Ph.D., University of California (Berkeley), 1964.

Dayna L. Stocks .... Assistant Professor of Botany (1965)
B.S., Utah State University, 1956; M.S., University of Utah, 1960; Ph.D., Utah State University, 1964.

Royal B. Stone .... Associate Professor of Youth Leadership (1967)
B.S., University of Utah, 1926.

Dee Leon Storrs .... Instructor in Library and Information Sciences (1957)
B.S., Brigham Young University, 1953; M.S., University of Washington, 1957.

Jane G. Storrs .... Clinical Instructor in Education (1962)
B.S., M.S., Brigham Young University, 1946, 1960.

Bruce M. Stringham .... Instructor in Accounting (1965)
B.A., Brigham Young University, 1958; M.B.A., Northwestern University, 1960.

Susan Kay Strong .... Special Instructor in Classical Languages (1967)
B.A., Brigham Young University, 1966.

William J. Strong .... Assistant Professor of Physics (1967)
B.S., M.S., Brigham Young University, 1958, 1959; Ph.D., Massachusetts Institute of Technology, 1964.

Robert E. Struthers .... Assistant Professor of Dramatic Arts (1953)
B.S., Utah State University, 1949; M.S., Brigham Young University, 1953.

Darrel W. Stubbs .... Associate Professor of Music (1962)
B.M., Eastman School of Music, 1949; M.M., Indiana University, 1952; D.M.A., University of Southern California, 1966.

Howard C. Stutz .... Professor of Botany (1953)
B.S., M.S., Brigham Young University, 1940, 1951; Ph.D., University of California (Berkeley), 1956.

Floyd Sucher .... Associate Professor of Teacher Education (1964)
B.S., Brigham Young University, 1954; M.A., Los Angeles State College, 1957; Ed.D., Colorado State College, 1963.

Kenneth Rush Sumpter .... Instructor in General Curriculum (1966)
B.A., Brigham Young University, 1964.

Lydia Ling-Feng Sun .... Instructor in Library and Information Sciences (1966)
B.A., National Taiwan University, 1961; M.A., Appalachian State Teachers College, 1966.

Albert D. Swensen .... Professor of Chemistry (1947)
B.A., M.A., Brigham Young University, 1937, 1938; Ph.D., Louisiana State University, 1941.

Russel B. Swensen .... Professor of History (1933)
B.A., Brigham Young University, 1926; M.A., Ph.D., University of Chicago, 1931, 1934.

Joseph N. Symons .... Professor of Sociology (1953)
B.S., M.S., Utah State University, 1927, 1932; Ph.D., University of Chicago, 1944.

Fred Y. Takasaki .... Instructor in Art (1961)
B.A., M.A., Brigham Young University, 1953, 1958.

Elvin R. Tanner .... Instructor in Sociology (1967)
B.A., Brigham Young University, 1962; M.S.W., University of Utah, 1964.

Wilmer W. Tanner .... Professor of Zoology and Entomology (1949)
B.A., M.A., Brigham Young University, 1936, 1937; Ph.D., University of Kansas, 1949.

Norman Tarbox .... Assistant Professor of Communications (1960)
B.S., University of Utah, 1955; M.S., Syracuse University, 1956.

Kenneth R. Tarr .... Instructor in French (1964)
B.A., M.A., Brigham Young University, 1962, 1965.

Charles D. Tate, Jr. .... Assistant Professor of English (1960)
B.S., M.S., Utah State University, 1954, 1958; Ph.D., University of Colorado, 1966.

Lucile C. Tate .... Instructor in Humanities (1967)
B.A., M.A., Brigham Young University, 1964, 1967.

Barbara Taylor .... Instructor in Child Development and Family Relationships (1957)
B.S., M.S., Brigham Young University, 1957, 1960.

Celestia J. Taylor .... Instructor in English (1959)
B.A., M.A., Brigham Young University, 1925, 1953.

Dale H. Taylor .... Professor of Accounting (1963)
B.A., M.A., Brigham Young University, 1951, 1953; C.P.A., Illinois, 1955; Ph.D., Northwestern University, 1963.

Ethelyn Peterson Taylor .... Assistant Professor of Business Education (1946)
B.S., Brigham Young University, 1937; M.A., Stanford University, 1949.

James S. Taylor .... Assistant Professor of Spanish (1962)
B.A., M.A., Brigham Young University, 1957, 1960; Ph.D., Ohio State University, 1967.

Josephine C. Taylor .... Instructor in Library and Information Sciences (1960)
B.A., Brigham Young University, 1959; M.A., University of Southern California, 1960.

L. John Taylor .... Instructor in English (1961)
B.S., University of Utah, 1958; M.A., Brigham Young University, 1960.

Weldon J. Taylor .... Professor of Marketing; Dean of the College of Business (1937)
B.S., Brigham Young University, 1934; M.B.A., Harvard Graduate School of Business Administration, 1937; Ph.D., Graduate School of Business Administration, New York University, 1955.

Elvis B. Terry .... Assistant Professor of Music (1957)
B.S., M.S., Brigham Young University, 1933, 1950.

Douglas H. Thayer .... Assistant Professor of English (1957)
B.A., Brigham Young University, 1955; M.A., Stanford University, 1959; M.F.A., State University of Iowa, 1962.

John A. Thomas .... Associate Professor of English (1962)
B.A., M.A., Brigham Young University, 1953, 1954; Ph.D., University of Maryland, 1962.

Robert K. Thomas .... Professor of English; Assistant Vice-President (1951)
B.A., Reed College, 1947; M.A., University of Oregon, 1949; Ph.D., Columbia University, 1967.

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B.A., M.S., Brigham Young University, 1963, 1967.

Marilyn Thompson .... Instructor in Home Economics Education (1966)
B.S., Utah State University, 1960; M.S., Brigham Young University, 1967.

Woodruff C. Thomson .... Professor of English (1950)
B.A., M.A., Ph.D., University of Utah, 1938, 1949, 1962.

Dennis Eugene Thorne .... Assistant Professor of Psychology (1966)
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James M. Thorne .... Assistant Professor of Chemistry (1966)
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Lucile Markham Thorne .... Assistant Professor of Library and Information Sciences (1950)
B.A., M.Ed., Ed.D., Brigham Young University, 1929, 1956, 1967; M.S., University of Southern California, 1958.

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B.S., M.S., Brigham Young University, 1965, 1967.

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B.S., M.H.Ed., Brigham Young University, 1962, 1965.

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B.S., M.S., University of Arizona, 1967, 1967.

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B.S., M.S., Brigham Young University, 1955, 1965.

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B.S., Brigham Young University, 1954; M.S., University of Wisconsin, 1959.

Rodney Turner .... Professor of Religious Education (1956)
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Howard F. Uibel .... Assistant Professor of Physical Education (1961)
B.S., M.S., Brigham Young University, 1960, 1962.

Robert M. Uzelac .... Special Instructor in Recreation Education (1967)
B.S., Brigham Young University, 1966.

Ann Valentine .... Assistant Professor of Physical Education for Women (1966)
B.S., State Teachers College, 1955; M.S., Pennsylvania State University, 1961.

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Curtis N. Van Alfen .... Associate Professor of Teacher Education (1967)
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B.S., University of Alberta, 1941; M.S., Washington State University, 1943.

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B.S., Utah State University, 1954; M.S., Washington State University, 1960.

Max V. Wallentine .... Associate Professor of Animal Science (1962)
B.S., Utah State University, 1955; M.S., Ph.D., Cornell University, 1956, 1960.

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David M. Ward .... Assistant Professor of Electrical Engineering (1964)
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Charles Y. Warner .... Associate Professor of Mechanical Engineering (1966)
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C. Terry Warner .... Assistant Professor of Philosophy (1967)
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Jean Anne Waterstradt .... Assistant Professor of English (1945)
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Arthur R. Watkins .... Professor of German (1952)
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Ray Watters .... Professor of Health and Safety Education (1957)
B.S., M.S., Utah State University, 1948, 1950; H.S.D., Indiana University, 1960.

Paul J. Watts, Jr. .... Assistant Professor of Electrical Engineering (1963)
B.E.S., Brigham Young University, 1960.

Stanley H. Watts .... Associate Professor of Physical Education; Head Basketball Coach (1947)
B.S., Brigham Young University, 1938.

Max D. Weaver .... Associate Professor of Art (1961)
B.S., M.A., Utah State University, 1939, 1955.

Ross M. Weaver .... Assistant Professor of Speech (1959)
B.S., M.S., Utah State University, 1950, 1951.

Beth R. Webb .... Instructor in Library and Information Sciences (1966)
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Clark D. Webb .... Instructor in Teacher Education (1966)
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Kurt Weinzinger .... Associate Professor of Music (1956)
Music Diplomas, Academy of Music and Arts, Vienna, Austria, 1951, 1953.

Stanley L. Welsh .... Professor of Botany (1960)
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Dale H. West .... Professor of English (1947)
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Lorin F. Wheelwright .... Professor of Music; Dean of the College of Fine Arts and Communications (1967)
B.S., University of Utah, 1930; M.A., University of Chicago, 1931; Ph.D., Columbia University, 1938.

Lester B. Whetten .... Associate Professor of Religious Instruction; Dean of the General College (1956)
B.A., M.A., Brigham Young University, 1932, 1934.

David Arnold White .... Assistant Professor of Zoology and Entomology (1966)
B.S., M.S., Brigham Young University, 1961, 1964; Ph.D., University of Wisconsin, 1967.

Fred G. White .... Associate Professor of Chemistry (1961)
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J. Morgan White .... Assistant Professor of Accounting (1967)
B.S., M.S., Brigham Young University, 1951, 1958; C.P.A., Utah, 1953.

Charles W. Whitman .... Assistant Professor of Dramatic Arts (1965)
B.A., M.A., Brigham Young University, 1957, 1958.

Leslie Whitton .... Associate Professor of Botany (1962)
B.S., Utah State University, 1949; M.S., University of California (Davis), 1953; Ph.D., Cornell University, 1964.

Harry E. Wickes .... Associate Professor of Mathematics (1957)
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Marvin E. Wiggins .... Instructor in Library and Information Sciences (1967)
B.S., Brigham Young University, 1965; M.L.S., Rutgers, 1967.

Marjorie Wight .... Assistant Professor of English (1963)
B.A., Brigham Young University, 1943; M.A., University of California at Los Angeles, 1958.

Theodore A. Wight .... Instructor in Mathematics (1963)
B.S., M.S., University of Utah, 1955, 1963.

Ray T. Wilcox .... Associate Professor of Secondary Education (1957)
B.S., M.Ed., Brigham Young University, 1951, 1954; Ed.D., University of California (Berkeley), 1957.

Doran F. Wilkes .... Associate Professor of Civil Engineering (1958)
B.S., M.S., Utah State University, 1951, 1955; Ed.D., University of Missouri, 1966.

Ernest J. Wilkins .... Professor of Spanish; Director of the Language Training Mission (1953)
B.A., Brigham Young University, 1947; M.A., Ph.D., Stanford University, 1949, 1954.

Ernest L. Wilkinson .... University President; Professor of Political Science (1951)
B.A., Brigham Young University, 1921; J.D., George Washington University, 1926; S.J.D., Harvard University, 1927; hon. LL.D., Brigham Young University, 1957.

Milton G. Wille .... Associate Professor of Mechanical Engineering (1964)
B.A., B.E.S., Brigham Young University, 1957, 1957; M.S., California Institute of Technology, 1958; Ph.D., University of Michigan, 1964; Registered Professional Engineer, Utah, 1965.

Carwin C. Williams .... Assistant Professor of Political Science (1964)
B.S., Brigham Young University, 1956; M.A., Rutgers University, 1958.

Gary Shelton Williams .... Assistant Professor of Asian Languages (1966)
B.A., Brigham Young University, 1962.

Glenn R. Williams .... Associate Professor of Music (1965)
B.A., Brigham Young University, 1953; M.M., D.M.A., Eastman School of Music, 1954, 1961.

Ray S. Williams .... Assistant Professor of English (1966)
B.A., Coker College, 1960; M.A., Ph.D., Florida State University, 1962, 1965.

Tess M. Williams .... Assistant Professor of Communications (1960)
B.S., Oregon State University, 1951; M.S., Iowa State University, 1956.

Arnold Wilson .... Assistant Professor of Civil Engineering (1957)
B.S., M.S., Brigham Young University, 1957, 1962; Registered Professional Engineer, Utah, 1963.

Byron J. Wilson .... Associate Professor of Chemistry (1965)
B.S., Idaho State College, 1955; M.A., Southern Illinois University, 1958; Ph.D., University of Washington, 1961.

Marguerite I. Wilson .... Associate Professor of Special Education (1956)
B.S., University of Utah, 1948; M.A., San Francisco State College, 1955; Ed.D., George Peabody College for Teachers, 1965.

Warren B. Wilson .... Associate Professor of Art and Education (1954)
B.S., Utah State University, 1943; M.F.A., State University of Iowa, 1949.

William A. Wilson .... Assistant Professor of English (1960)
B.A., M.A., Brigham Young University, 1958, 1962.

S/Sgt. Lynden Wilstead .... Instructor in Aerospace Studies (1967)

Larry T. Wimmer .... Assistant Professor of Economics (1963)
B.S., Brigham Young University, 1960; M.A., University of Chicago, 1962.

John H. Wing .... Assistant Professor of Chemistry (1931)
B.S., M.S., Brigham Young University, 1926, 1934.

H. Geneva Winterrose .... Assistant Professor of Teacher Education (1967)
B.S., M.S., Brigham Young University, 1948, 1951; Ed.D., Utah State University, 1968.

Dee R. Winterton .... Instructor in Physical Education (1968)
B.S., University of Utah, 1960.

Edward J. Winward .... Instructor of Psychology; Chairman of Testing Service (1959)
B.S., M.S., Utah State University, 1959, 1960; Ph.D., University of Missouri, 1966.

Richard B. Wirthlin .... Associate Professor of Economics (1961)
B.S., M.A., University of Utah, 1956, 1957; Ph.D., University of California, 1963.

Alan R. Witbeck .... Instructor in Physical Education (1955)
B.S., M.S., Brigham Young University, 1952, 1954.

Robert H. Wittorf .... Instructor in Library and Information Sciences (1964)
B.A., Brigham Young University, 1959; M.L.S., The Pratt Institute, 1960.

Harold Frederick Wolfgramm .... Associate Professor of Teacher Education (1966)
B.S., M.S., Ph.D., University of Utah, 1959, 1960, 1964.

Heber G. Wolsey .... Associate Professor of Communications (1963)
B.S., Brigham Young University, 1942; M.A., Northwestern University, 1949; Ph.D., Michigan State University, 1967.

Glena D. Wood .... Associate Professor of English (1952)
B.A., Brigham Young University, 1936; M.A., Ph.D., University of Kentucky, 1949, 1958.

Joseph S. Wood .... Assistant Professor of History (1967)
B.S., Ph.D., University of Utah, 1939, 1967.

Stephen L. Wood .... Professor of Zoology and Entomology (1956)
B.S., M.S., Utah State University, 1946, 1948; Ph.D., University of Kansas, 1953.

Lael J. Woodbury .... Professor of Dramatic Arts (1965)
B.S., Utah State University, 1952; M.A., Brigham Young University, 1953; Ph.D., University of Illinois, 1954.

Richard C. Woodbury .... Associate Professor of Electrical Engineering (1959)
B.S., University of Utah, 1956; M.S., Ph.D., Stanford University, 1958, 1965.

Leon W. Woodfield .... Assistant Professor of Accounting (1960)
B.S., M.B.A., University of Utah, 1956, 1957; C.P.A., California, 1959, Utah, 1960; D.B.A., Michigan State University, 1965.

Ralph Woodward .... Professor of Music (1955)
B.S., University of Idaho, 1940; M.M., Cincinnati Conservatory of Music, 1948; D.M.A., University of Illinois, 1964.

Charles J. Woodworth .... Assistant Professor of Sociology; Counselor in Counseling Center (1966)
B.A., Brigham Young University, 1954; M.S.W., University of Utah, 1959; Ph.D., Brigham Young University, 1965.

Richard R. Wootton .... Assistant Professor of Education (1963)
B.S., M.S., Brigham Young University, 1956, 1961.

H. Curtis Wright .... Instructor in Library and Information Sciences (1959)
B.A., M.A., Brigham Young University, 1954, 1955; M.S., University of Southern California, 1959.

Jan Wright .... Instructor in Housing and Home Management (1967)
B.A., Utah State University, 1958; M.A., Iowa State University, 1967.

Jane R. Wright .... Assistant Professor of Associate-Degree Nursing (1966)
B.S., M.S., University of Utah, 1958, 1965.

Norman E. Wright .... Senior Systems Analyst of Computer Center; Assistant Professor of Computer Science (1963)
B.S., Brigham Young University, 1951.

Norman Edgar Wright .... Instructor in Genealogical Research Technology (1964)
B.S., Brigham Young University, 1956; M.S., Utah State University, 1958.

Jan E. Wynn .... Instructor in Mathematics (1966)
B.S., University of Idaho, 1962; M.S., Utah State University, 1965.

David H. Yarn, Jr. .... Professor of Philosophy (1950)
B.A., Brigham Young University, 1946; M.A., Ed.D., Columbia University, 1949, 1958.

Paul H. Yearout .... Professor of Mathematics (1962)
B.A., Reed College, 1949; M.S., Ph.D., University of Washington, 1958, 1961.

Hazel Young .... Clinical Instructor in Education (1955)
B.A., Brigham Young University, 1933.

Karl E. Young .... Professor of English (1930)
B.A., M.A., Oxford University (England), 1930, 1934.

Rae Jean Young .... Instructor in Nursing (1966)
B.S., Brigham Young University, 1961; M.S., University of Colorado, 1967.

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General Authorities of The Church of Jesus Christ of Latter-day Saints
Phyllis Allen, B.A., Special Instructor in Housing and Home Management
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Jacob Bos, Special Instructor in Music
Adine Bradley, Special Instructor in Music
Rulon Brough, Special Instructor in Machine Accounting
Keith P. Burnham, B.S., Special Instructor in Psychology

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Barclay Gardner, M.S., Special Instructor in Economics
Paul Harmon, M.S., Special Lecturer in Marketing
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Elmer E. Nelson, Special Instructor in Piano
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Richard Nibley, B.S., Special Instructor in Music
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(Biological and Agricultural Sciences)

Maurice F. Baker, B.S., M.S., Iowa State University, 1937, 1939; Ph.D., University of Kansas, 1952
David Barton, B.S., Weber State University, 1965
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Ralph C. Holmgren, B.S., Brigham Young University, 1948
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LaNora P. Allred, B.S., Special Lecturer in Business
Pearl O. Allred, B.A., Special Lecturer in English
Andre K. Anastasion, Special Instructor in Languages
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Alan Brown Andrus, B.S., M.A.Ed., Special Instructor in History

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Jay W. Casper, B.A., M.Ed., Special Instructor in Teacher Education, Graduate Education
A. Earl Catmull, B.S., M.S., Special Instructor in Mathematics
Joan Catmull, B.S., Special Instructor in English
W. Henry Chace, Special Instructor in Undergraduate Religious Instruction
June P. Chapman, B.S., M.A., Special Instructor in Child Development and Family Relationships
Joe J. Christensen, B.A., Ph.D., Special Instructor in Graduate Education
Linford Christensen, B.S., M.Ed., Special Instructor in Undergraduate Religious Instruction
Norman B. Christensen, Special Lecturer in Horticulture

Henry E. Christiansen, A.S., Special Instructor in Undergraduate Religious Instruction
M. David Chugg, B.S., M.S., Ed.D., Special Instructor in Music
Dorothy Mae Clanton, B.S., Special Instructor in Undergraduate Religious Instruction
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Geraldine F. Clarke, A.B., Special Instructor in Languages
Millen Cowley Clawson, B.S., J.D., Special Instructor in Accounting
Elwood Melville Clayton, B.S., M.S., Special Instructor in Teacher Education
W. Elmo Coffman, B.S., M.S., Ph.D., Special Instructor in Geography
Stanley E. Collins, B.S., M.B.A., Special Instructor in Business Management
Don F. Colvin, M.S., Special Instructor in Undergraduate Religious Instruction
William M. Conover, B.S., M.S., Special Instructor in Sociology
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Alger Ray Cornum, B.S., M.Ed., M.S., Special Instructor in Physical Education
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Melvin Wesley Cox, B.S., Special Instructor in Statistics, Business Education
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Leroy R. Critchfield, B.S., M.B.A., Special Lecturer in Business
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Ralph F. Dabb, B.A., M.S., Special Lecturer in English
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John Albert Dahl, B.A., Special Lecturer in Languages
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Dello G. Dayton, B.S., M.A., Ph.D., Special Instructor in History
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John Zippro, Special Lecturer in Electronics

ENROLLMENT SUMMARY 1965-66
PROVO, UTAH
AS OF AUGUST 19, 1966

College	Freshman	Sophomore	Junior	Senior	5th-Year Professional	Graduate	Men	Women	Total
Bio. and Agri. Sciences	615	420	307	279	....	....	1,368	253	1,621
Business	578	514	534	432	....	....	1,602	456	2,058
Education	820	611	574	546	....	....	518	2,033	2,551
Family Living	438	371	352	310	....	....	35	1,436	1,471
Fine Arts and Communications	585	406	345	324	....	....	721	939	1,660
General	2,698	898	355	96	....	....	2,515	1,532	4,047
Humanities	352	337	358	364	....	....	524	887	1,411
Industrial and Technical Education	417	272	163	147	....	....	448	551	999
Nursing	21	49	59	60	....	....	3	186	189
Physical and Engineering Sciences	734	513	390	320	107	....	1,934	130	2,064
Physical Education	161	159	147	146	....	....	346	267	613
Social Sciences	668	638	603	553	....	....	1,682	780	2,462
Graduate School	....	....	....	....	....	3,122	2,074	1,048	3,122
Total Daytime College Students on Campus	8,087	5,188	4,187	3,577	107	3,122	13,770	10,498	24,268**
Evening College Students on Campus							775	997	1,772
Net Cumulative Total College Level							14,545	11,495	26,040
BYU Laboratory Schools									
Elementary School							100	89	189
Junior High School							104	93	197
Senior High School							107	91	198
Total, BYU Laboratory Schools							311	273	584
TOTAL STUDENTS ON BYU CAMPUS							14,856	11,768	26,624*

*Complete for the school year 1965-66, including Summer School 1966.

**Total enrollment for Fall and Spring Semesters only was 21,286. Total Summer School enrollment was 6,969, of whom 2,982 attended Summer School only.

NOTE: There are no duplications in this table.

BRIGHAM YOUNG UNIVERSITY 1965-66 CUMULATIVE FALL AND SPRING SEMESTER AND SUMMER ENROLLMENT, REGULAR DAYTIME STUDENTS, PROVO CAMPUS, ACCORDING TO STATES AND FOREIGN AREAS AS OF AUGUST 18, 1966

Mountain States	
Utah	9,102
Idaho	2,278
Arizona	810
Nevada	507
Colorado	414
Wyoming	392
New Mexico	282
Montana	234
	14,019

Pacific States	
California	4,822
Washington	773
Oregon	691
Hawaii	135
Alaska	60
	6,481

Central States	
Texas	247
Missouri	75
Oklahoma	67
Minnesota	58
Nebraska	54
Iowa	52
Kansas	51
South Dakota	30
North Dakota	13
	647

Great Lakes States	
Illinois	203
Ohio	126
Michigan	104
Indiana	78
Wisconsin	70
	581

Southern States	
Florida	158
North Carolina	82
Georgia	70
Louisiana	37
Alabama	37
South Carolina	34
Tennessee	30
Arkansas	21
Kentucky	16
West Virginia	14
Mississippi	13
	512

Mid-Atlantic States	
New York	233
New Jersey	131
Pennsylvania	128
Delaware	13
	505

D.C. and Adjoining States	
Virginia	213
Maryland	87
District of Columbia	17
	317

New England States	
Massachusetts	68
Connecticut	41
New Hampshire	26
Maine	18
Vermont	8
Rhode Island	7
	168

TOTAL UNITED STATES	23,230

Dominion of Canada	
Alberta	430
Ontario	59
British Columbia	41
Saskatchewan	20
Quebec	10
Manitoba	5
Yukon and N. W. Territory	3
Maritime Provinces	1
	569

Far East	
Nationalist China (Formosa)	67
Japan	25
Hong Kong	24
Korea	19
Thailand	9
Philippines	5
Netherlands New Guinea	3
Indonesia	1
South Vietnam	1
	154

Europe	
England	21
East Germany	18
France	8
Switzerland	7
Finland	7
Scotland	5
Sweden	5
Austria	3
Yugoslavia	2
West Germany	2
Belgium	1
Republic of Ireland	1
Norway	1
	81

Middle East	
Iran	42
India	19
Saudi Arabia	4
Pakistan	3
Israel	3
Lebanon	2
Jordan	1
Iraq	1
	75

Central America and Mexico	
Mexico	51
Guatemala	4
Canal Zone	4
Honduras	2
Puerto Rico	1
El Salvador	1
Costa Rica	1
British Honduras	1
	65

South America	
Brazil	10
Peru	10
Chile	9
Uruguay	7
Argentina	6
French Guiana and Inini	1
Venezuela	1
	44

Australia and Pacific Islands

New Zealand	15
Australia	7
Samoan Islands	4
Society Islands (Tahiti)	2
Tongan Islands	1
Queensland	1
New South Wales	1
	31

Africa

Nigeria	7
Southwest Africa	2
Southern Rhodesia	1
Libya	1
	11

Unidentified	8
TOTAL FOREIGN	1,038
TOTAL DAYTIME STUDENTS	24,268

RECAPITULATION

United States	
Mountain States	14,019
Pacific States	6,481
Central States	647
Great Lakes States	581
Southern States	512
Mid-Atlantic States	505
D.C. and Adjoining States	317
New England States	168
Dominion of Canada	569
Far East	154
Europe	81
Middle East	75
Central America and Mexico	65
South America	44
Australia and Pacific Islands	31
Africa	11
Unidentified	8
GRAND TOTAL	24,268

BRIGHAM YOUNG UNIVERSITY 1965-66 CUMULATIVE FALL AND SPRING SEMESTER AND SUMMER ENROLLMENT, REGULAR DAYTIME STUDENTS FROM STAKES AND MISSIONS AS OF AUGUST 19, 1966

Alameda	10
Alaska	48
Alberta	133
Albuquerque	87
Alpine	125
American Falls	31
American Fork	144
American River	92
Ammon	41
Anaheim	26
Apia	1
Ashley	43
Atlanta	28
Auckland	5
Bakersfield	75
Bannock	21
Bear Lake	22
Bear River	25
Beaumont	18
Beaver	38
Ben Lomond	30
Ben Lomond South	13
Benson	23
Berlin	1
Big Horn	135
Billings	45
Blackfoot	56
Blaine	26
Boise	103
Bonneville	55
Boston	36
Bountiful	70
Bountiful East	12
Bountiful North	35
Bountiful South	43
Box Elder	31
Brigham City	25
Burbank	110
Burley	94
Butler	35
Butte	54
BYU First	61
BYU Second	40
BYU Third	50
BYU Fourth	39
BYU Fifth	24
BYU Sixth	32
Cache	4
Calgary	47
Cannon	13
Canoga Park	54
Canyon Rim	71
Carbon	50
Cascade	34
Casper	23
Cassia	47
Cedar	20
Cedar West	26
Cheyenne	44
Chicago	96
Chicago South	41
Cincinnati	40
Clearfield	37
Cleveland	40
Coeur d' Alene	29
College of Southern Utah	1
Columbia River	69
Columbus	21

Concord	76
Corpus Christi	5
Corvallis	21
Cottonwood	52
Covina	82
Craig	20
Cumorah	54
Dallas	62
Davis	60
Denver	79
Denver South	46
Denver West	67
Deseret	75
Detroit	66
Duchesne	64
East Cache	21
East Idaho Falls	66
East Jordan	28
East Long Beach	82
East Los Angeles	80
East Mesa	54
East Mill Creek	40
East Ogden	34
East Phoenix	41
East Pocatello	27
East Provo	350
East Rigby	35
East Sharon	603
Edmonton	33
El Paso	73
Emery	45
Emigration	25
Ensign	65
Farr West	8
Flagstaff	55
Florida	55
Fort Wayne	23
Franklin	51
Fresno	84
Fresno East	31
Fullerton	60
Garden Grove	53
Garfield	20
Glasgow	1
Glendale	155
Gooding	69
Grand Coulee	101
Grand Junction	67
Granger	38
Granger North	16
Granite	15
Granite Park	19
Grant	53
Grantsville	55
Great Falls	61
Greensboro	20
Gridley	78
Gunnison	37
Hamburg	2
Hamilton	9
Hattiesburg	5
Hayward	64
Highland	31
Hillside	44
Holladay	98
Honolulu	55
Houston	39
Humboldt	27
Hunter	25
Huntington Park	86
Hyrum	24
Idaho	39
Idaho Falls	109
Illinois	36
Indianapolis	43
Inglewood	116
Jackson	2
Juab	61
Juarez	39
Kanab	42
Kansas City	53
Kaysville	53
Kearns	19
Kearns North	14
Klamath	38
Kolob	194
Lake Mead	50
Lake View	14
Lansing	39
Las Vegas	126
Las Vegas East	55
Las Vegas North	71
Layton	37
Lehi	139
Leicester	1
Lethbridge	77
Lewiston	30
Liberty	11
Logan	14
London	5
Long Beach	86
Lorin Farr	32
Los Angeles	100
Lost River	18
Lyman	67
Macon	12
Malad	66
Manchester	2
Maricopa	55
Medford	48
Melbourne	1
Memphis	2
Mesa	78
Mesa South	29
Mexico	2
Miami	41
Midvale	97
Millard	56
Millcreek	26
Milwaukee	55
Minidoka	90
Minnesota	39
Missoula	35
Moapa	44
Modesto	41
Mojave	62
Monterey	37
Montpelier	60
Monument Park	59
Monument Park West	34
Morgan	16
Moroni	28
Mt. Graham	59
Mt. Jordan	91
Mt. Logan	10
Mt. Ogden	17
Mt. Olympus	21
Mt. Rubidoux	99
Murray	34
Murray South	72
Nampa	144
Napa	58
Nebo	135
Nevada	50
New Jersey	94
New Orleans	21
New York	107
Norfolk	13
North Box Elder	31
North Carbon	33
North Carolina	28
North Columbia River	29
North Davis	22
North Idaho Falls	63
North Jordan	27
North Pocatello	15
North Rexburg	39
North Sacramento	35
North Sanpete	31
North Seattle	52
North Sevier	31
North Tooele	43
North Weber	8
Norwalk	38
Nyssa	87
Oahu	42
Oakland-Berkeley	167
Ogden	34
Oklahoma	34
Olympus	35
Oneida	39
Oquirrh	39
Oquirrh East	3
Orange County	28
Orem	222
Orem West	208
Orlando	43
Palo Alto	121
Palomar	57
Palmyra	115
Panguitch	23
Park	25
Parley	38
Parowan	5
Pasadena	175
Pearl Harbor	18
Philadelphia	57
Phoenix	45
Phoenix North	30
Phoenix West	25

Pikes Peak	40
Pioneer	21
Pocatello	31
Pomona	67
Portland	114
Portland West	75
Portneuf	38
Potomac	142
Provo	202
Puget Sound	66
Raft River	16
Raleigh	24
Redding	31
Redondo	43
Redwood	32
Reno	59
Reno North	37
Reseda	98
Rexburg	74
Richland	167
Rigby	69
Riverdale	15
Riverside	17
Riverton	36
Roosevelt	70
Rose Park	22
Roy	28
Sacramento	82
St. George	46
St. George East	37
St. Johns	61
St. Joseph	32
St. Louis	37
Salem	36
Salmon River	6
Salt Lake	28
San Antonio	18
San Bernardino	111
San Diego	105
San Diego East	30
San Diego South	28
San Fernando	117
San Francisco	66
San Joaquin	70
San Jose	62
San Jose West	70
San Juan	107
San Leandro	60
San Luis	35
San Luis Obispo	18
San Mateo	102
Sandy	69
Sandy East	29
Santa Ana	66
Santo Barbara	74
Santa Maria	34
Santa Monica	78
Santa Rosa	70
Santaquin-Tintic	39
Scottsdale	42
Seattle	83
Seattle East	47
Sevier	79
Sharon	256
Shelley	63
Shreveport	17
Smithfield	10
Snowflake	86
South Bear River	18
South Blackfoot	71
South Box Elder	15
South Carolina	21
South Carolina West	16
South Cottonwood	41
South Davis	53
South Idaho Falls	92
South Los Angeles	51
South Ogden	20
South Salt Lake	17
South Sanpete	55
South Sevier	46
South Summit	40
Southern Arizona	10
Spanish Fork	194
Spokane	74
Springville	202
Star Valley	74
Sugar House	35
Summit	16
Sydney	3
Taber	31
Tacoma	49
Tampa	17
Taylor	78
Taylorsville	33
Taylorsville West	2
Tempe	29
Temple View	24
Teton	43
Timpanogos	256
Tooele	58
Toronto	31
Torrance	62
Tucson	40
Tulsa	25
Twin Falls	118
Uintah	67
Union	67
University	33
University West	34
Utah	213
Utah State Univ.	20
Uvada	14
Valley View	79
Vancouver	24
Virginia	26
Walnut Creek	95
Wasatch	112
Washington	105
Washington Terrace	13
Wayne	25
Weber	17
Weber Heights	33
Weiser	65
Wells	21
West Boise	102
West Covina	63
West Jordan	69
West Pocatello	22
West Sharon	164
West Utah	194
Whittier	89
Wichita	12
Wilford	55
Willamette	61
Wind River	16
Winder	42
Winter Quarters	47
Woodruff	51
Yakima	44
Yellowstone	52
Young	120
Yuma	51
Zion Park	21
Unclassified	247
Missions	
Alaskan-Canadian	23
Andes	6
Argentine	7
Brazilian South	2
British	1
California	23
Canadian	27
Central American	8
Central Atlantic States	22
Central States	30
Chilean	2
Cumorah	19
East Central States	47
Eastern Atlantic States	55
Eastern States	22
Finnish	4
Florida	23
French	7
Great Lakes	9
Gulf States	19
Hawaii	9
Mexican	1
Netherlands	1
New England	70
North Central States	30
North German	2
Northern California	1
Northern Far East	18
Northern Indian	6
Northern Mexican	3
Northern States	41
Northwestern States	55
Norwegian	1
Southeast Mexican	1
Southern Australian	2
Southern Far East	25
Southern States	25
Southwest British	2
Southwest Indian	29
Spanish-American	1
Swedish	5
Swiss-Austrian	1

Texas	32
Uruguayan	2
West Central States	34
West German	2
Western Canadian	6
Western States	25
TOTAL MISSIONS	786
TOTAL STAKES	22,385
TOTAL STAKES AND MISSIONS	23,144
NON-LDS STUDENTS	1,124
TOTAL STUDENT BODY	24,268

Utah Counties

Beaver	32
Box Elder	86
Cache	168
Carbon	86
Daggett	2
Davis	395
Duchesne	123
Emery	40
Garfield	31
Grand	38
Iron	52
Juab	55
Kane	31
Millard	138
Morgan	14
Piute	7
Rich	10
Salt Lake	2,006
San Juan	95
Sanpete	148
Sevier	156
Summit	54
Tooele	156
Uintah	117
Utah	4,495
Wasatch	114
Washington	102
Wayne	23
Weber	316
Unidentified	12
TOTAL	9,102

REGISTRATION THROUGH THE DIVISION OF CONTINUING EDUCATION

September 1, 1965 - August 31, 1966

	Credit Courses		Noncredit Courses		Totals	
Academic College	Enroll-ments	*F.T.E.S.	Enroll-ments	*F.T.E.S.	Enroll-ments	*F.T.E.S.
Biol. & Agri. Sciences	1,238	105.0	231	7.0	1,469	112.0
Business	1,493	142.7	677	33.1	2,170	175.8
Education	4,304	332.2	1,210	42.0	5,514	374.2
Family Living	791	66.4	7,126	192.2	7,917	258.6
Fine Arts & Commun.	2,133	147.0	15,310	1,038.8	17,443	1,185.8
General College	1,225	44.9	629	32.3	1,854	77.2
Humanities	3,720	346.3	944	54.9	4,664	401.2
Ind. & Tech. Education	638	53.6	754	45.5	1,392	99.1
Library Science	149	11.3	----	----	149	11.3
Nursing	89	9.6	----	----	89	9.6
Phys. & Engr. Sciences	3,112	303.8	2,308	40.3	5,420	344.1
Physical Education	2,250	100.8	9,299	555.1	11,549	655.9
Religious Instruction	3,235	212.2	10,682	281.7	13,917	493.9
Social Sciences	3,941	357.0	65	2.8	4,006	359.8
Unclassified	----	----	6,749	217.8	6,749	217.8
TOTAL	28,318	2,232.8	55,984	2,543.5	84,302	4,776.0

*Full-Time Equivalent Students.

ENROLLMENT SUMMARY 1966-67
PROVO, UTAH
AS OF AUGUST 18, 1967

College	Freshman	Sophomore	Junior	Senior	5th-Year Professional	Graduate	Men	Women	Total
Bio. and Agr. Sciences	577	493	399	297	....	....	1,494	272	1,766
Business	582	535	605	509	....	....	1,710	521	2,231
Education	905	638	640	564	....	....	504	2,243	2,747
Family Living	410	410	427	324	....	....	31	1,540	1,571
Fine Arts and Communications	523	486	444	427	....	....	864	1,016	1,880
General	1,904	878	282	48	....	....	1,911	1,201	3,112
Humanities	303	402	430	409	....	....	584	960	1,544
Industrial and Technical Education	350	360	206	158	....	....	544	530	1,074
Nursing	195	114	82	58	....	....	8	441	449
Physical and Engineering Sciences	691	533	394	329	103	....	1,912	138	2,050
Physical Education	155	189	203	221	....	....	424	344	768
Social Sciences	627	716	770	643	....	....	1,862	894	2,756
Graduate School	....	....	....	....	....	2,985	1,974	1,011	2,985
Total Daytime College Students on Campus	7,222	5,754	4,882	3,987	103	2,985	13,822	11,111	24,933**
Evening School Students on Campus							722	1,138	1,860
Net Cumulative Total College Level							14,544	12,249	26,793
BYU Laboratory Schools									
Elementary							99	98	197
Junior							107	101	208
Senior							116	90	206
Total, BYU Laboratory Schools							322	289	611
TOTAL STUDENTS ON BYU CAMPUS							14,866	12,538	27,404*

*Complete for the school year 1966-67, including Summer School 1967.

**Total enrollment for Fall and Spring Semesters only was 22,470. Total Summer School enrollment was 6,707, of whom 2,463 attended Summer School only.

NOTE: There are no duplications in this table.

BRIGHAM YOUNG UNIVERSITY 1966-67 CUMULATIVE FALL AND SPRING SEMESTER AND SUMMER ENROLLMENT, REGULAR DAYTIME STUDENTS PROVO CAMPUS, ACCORDING TO STATES AND FOREIGN AREAS AS OF AUGUST 18, 1966

Mountain States

Utah	8,947
Idaho	2,412
Arizona	838
Nevada	519
Wyoming	414
Colorado	410
New Mexico	282
Montana	276
	14,098

Pacific States

California	5,083
Washington	802
Oregon	663
Hawaii	136
Alaska	59
	6,743

Central States

Texas	269
Missouri	85
Iowa	65
Minnesota	65
Oklahoma	63
Kansas	60
Nebraska	46
South Dakota	39
North Dakota	16
	708

Great Lakes States

Illinois	220
Ohio	144
Michigan	124
Wisconsin	82
Indiana	74
	644

Southern States

Florida	179
North Carolina	84
Georgia	72
South Carolina	40
Alabama	38
Tennessee	35
Louisiana	30
Arkansas	20
Kentucky	20
West Virginia	20
Mississippi	9
	547

Mid-Atlantic States

New York	232
New Jersey	139
Pennsylvania	123
Delaware	13
	507

D. C. and Adjoining States

Virginia	218
Maryland	96
Dist. of Columbia	19
	333

New England States

Massachusetts	70
Connecticut	40
New Hampshire	33
Maine	18
Rhode Island	10
Vermont	10
	181

TOTAL UNITED STATES 23,761

Dominion of Canada

Alberta	419
Ontario	65
British Columbia	47
Saskatchewan	16
Quebec	13
Manitoba	7
Maritime Provinces	5
Yukan and N.W. Territory	1
	573

Far East

Nationalist China	90
Japan	27
North Korea	20
Thailand	12
Hong Kong	10
Philippines	7
South Vietnam	4
Netherlands New Guinea	1
Malaya	1
	172

Europe

England	28
East Germany	27
Finland	12
France	10
Scotland	8
Norway	8
Switzerland	7
West Germany	5
Sweden	5
Italy	3
Austria	3
Yugoslavia	2
Denmark	2
Belgium	1
Wales	1
Republic of Ireland	1
	123

Middle East

India	63
Iran	37
Pakistan	5
Saudi Arabia	2
Israel	2
Syria	1
Iraq	1
	111

Central America and Mexico

Mexico	59
Puerto Rico	6
Guatemala	6
Canal Zone	5
Honduras	3
El Salvador	3
British Honduras	1
	83

South America

Brazil	18
Argentina	8
Chile	8
Uruguay	7
Peru	6
French Guiana and Inini	1
Colombia	1
	49

Australia and Pacific Islands

New Zealand	16
Australia	11
Samoan Islands	5
Tongan Islands	4
Society Islands (Tahiti)	2
Fiji Islands	1
Mariana Islands	1
Queensland	1
	41

Africa

Nigeria	7
Southwest Africa	1
Southern Rhodesia	1
Libya	1
	10

Unidentified	10
TOTAL FOREIGN	1,172
TOTAL DAYTIME STUDENTS	24,933

RECAPITULATION

United States	
Mountain States	14,098
Pacific States	6,743
Central States	708
Great Lakes States	644
Southern States	547
Mid-Atlantic States	507
D. C. and Adjoining States	333
New England States	181
Dominion of Canada	573
Far East	172
Europe	123
Middle East	111
Central America and Mexico	83
South America	49
Australia and Pacific Islands	41
Africa	10
Unidentified	10
GRAND TOTAL	24,933

BRIGHAM YOUNG UNIVERSITY 1966-67 CUMULATIVE FALL AND SPRING SEMESTER AND SUMMER ENROLLMENT, REGULAR DAYTIME STUDENTS FROM STAKES AND MISSIONS AS OF AUGUST 18, 1967

Alameda	22
Alaska	52
Alberta	105
Albuquerque	85
Albuquerque East	2
Alpine	116
American Falls	35
American Fork	117
American River	104
Ammon	54
Anaheim	28
Apia	3
Ashley	52
Atlanta	31
Auckland	6
Bakersfield	79
Bannock	22
Bear Lake	22
Bear River	20
Beaumont	20
Beaver	28
Ben Lomond	27
Ben Lomond South	14
Benson	22
Berlin	1
Big Horn	131
Billings	56
Blackfoot	58
Blaine	28
Boise	102
Boise North	11
Bonneville	55
Boston	43
Bountiful	72
Bountiful East	16
Bountiful North	55
Bountiful South	50
Box Elder	28
Brigham City	28
Burbank	100
Burley	92
Butler	30
Butte	61
BYU First	82
BYU Second	57
BYU Third	55
BYU Fourth	69
BYU Fifth	49
BYU Sixth	56
Cache	3
Calgary	37
Calgary North	3
Cannon	12
Canoga Park	62
Canyon Rim	67
Carbon	43
Cascade	38
Casper	30
Cassia	46
Cedar	17
Cedar Rapids	3
Cedar West	37
Cheyenne	52

Chicago	88
Chicago South	55
Cincinnati	44
Clearfield	33
Cleveland	45
Coeur d'Alene	26
College of So. Utah	2
Columbia River	58
Columbus	28
Concord	78
Corpus Christi	5
Corvallis	23
Cottonwood	61
Covina	77
Craig	16
Cumorah	49
Dallas	72
Davis	63
Denver	79
Denver South	50
Denver West	63
Deseret	83
Detroit	69
Duchesne	55
East Cache	22
East Idaho Falls	77
East Jordan	37
East Long Beach	90
East Los Angeles	74
East Mesa	55
East Mill Creek	40
East Ogden	37
East Phoenix	54
East Pocatello	29
East Provo	356
East Rigby	38
East Sharon	619
Edmonton	44
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Minnesota	50
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Mt. Ogden	25
Mt. Olympus	32
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New York	108
Norfolk	25
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North Carbon	30
North Carolina	24
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North Davis	16
North Idaho Falls	63
North Jordan	34
North Pocatello	16
North Rexburg	47
North Sacramento	42
North Sanpete	28
North Seattle	60
North Sevier	27
North Tooele	54
North Weber	10
Norwalk	47
Nyssa	79
Oahu	55
Oakland-Berkeley	158
Ogden	26
Oklahoma	28
Olympus	39
Oneida	48
Oquirrh	34
Oquirrh East	1
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Orem	215
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Orlando	45
Palo Alto	129
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Parley	31
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Pearl Harbor	20
Philadelphia	50
Phoenix	29
Phoenix North	45
Phoenix West	26
Pikes Peak	36
Pioneer	17
Pocatello	31
Pomona	79
Portland	88
Portland West	74
Portneuf	23
Potomac	158
Provo	182
Puget Sound	71
Raft River	11
Raleigh	26
Redding	27
Redondo	50
Redwood	30
Reno	53
Reno North	40
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Riverside	18
Riverton	42
Roosevelt	68
Rose Park	35
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Roy	29
Sacramento	87
St. George	37
St. George East	31
St. Johns	59
St. Joseph	17
St. Louis	34
Salem	42
Salmon River	11
Salt Lake	31
San Antonio	19
San Bernardino	137
San Diego	93
San Diego East	49
San Diego South	42
San Fernando	101
San Francisco	65
San Joaquin	58
San Jose	76
San Jose West	69
San Juan	102
San Leandro	66
San Luis	34
San Luis Obispo	20
San Mateo	122
Sandy	63
Sandy East	33
Santa Ana	84
Santa Barbara	92
Santa Maria	34
Santa Monica	91
Santa Rosa	75
Santaquin-Tintic	32
Scottsdale	65
Seattle	67
Seattle East	54
Sevier	69
Sharon	266
Shelley	86
Shreveport	23
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South Blackfoot	77
South Box Elder	17
South Carolina	27
South Carolina West	15
South Cottonwood	40
South Davis	40
South Idaho Falls	94
South Los Angeles	50
South Ogden	19
South Salt Lake	17
South Sanpete	50
South Sevier	40
South Summit	54
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Spanish Fork	193
Spokane	80
Springville	205
Star Valley	76
Sugar House	38
Summit	18
Sydney	4
Taber	31
Tacoma	35
Tampa	22
Taylor	70
Taylorsville	45
Taylorsville West	6
Tempe	26
Temple View	15
Teton	40
Timpanogos	223
Tington Beach	7
Tooele	50
Toronto	31
Torrance	66
Tucson	48
Tulsa	28
Twin Falls	120
Uintah	62
Union	70
University	35
University West	28
Utah	214
Utah State Univ.	19
Uvada	12
Valley View	69
Vancouver	28
Virginia	28
Walnut Creek	96
Wasatch	101
Washington	113
Washington Terrace	12
Wayne	20
Weber	19
Weber Heights	31
Weiser	60
Wells	18
West Boise	93
West Covina	58
West Jordan	57
West Pocatello	27
West Sharon	213
West Utah	206
Whittier	102
Wichita	21
Wilford	57
Willamette	62
Wind River	12
Winder	44
Winter Quarters	44
Woodruff	57
Yakima	50
Yellowstone	58
Young	114
Yuma	44
Zion Park	28
Unclassified	159
TOTAL	22,835

Missions

Alaskan-Canadian	18
Andes	6
Argentine	7
Austrian	1
Bavarian	1
Brazilian	3
Brazilian South	2
British	6
British South	2
California	25
Canadian	41
Central American	11
Central Atlantic States	22
Central British	1
Central German	1
Central States	35
Chilean	3
Cumorah	26
Danish	1
East Central States	56
East Germany	1
East Atlantic States	63
Eastern States	12
Finnish	3
Florida	27
Franco-Belgian	1
French	7

French East	2
French Polynesian	1
Great Lakes	4
Gulf States	22
Hawaii	13
Korean	6
Mexican	1
New England	88
North Argentine	1
North British	2
North Central States	33
North German	2
Northern California	1
Northern Far East	22
Northern Indian	6
Northern Mexican	2
Northern States	44
Northwestern States	60
Norwegian	7
Samoan	1
Scottish	2
South African	4
South German	1
Southeast Mexican	1
Southern Australian	5
Southern Far East	48
Southern States	29
Southwest British	5
Southwest Indian	34
Spanish-American	2
Swedish	5
Swiss-Austrian	2
Texas	43
Tongan	1
Uruguayan	2
West Central States	37
West German	5
West Mexican	1
West Spanish-American	1
Western Canadian	5
Western States	31
TOTAL MISSION	964
TOTAL STAKES	22,835
TOTAL STAKES AND MISSIONS	23,799
NON-LDS STUDENTS	1,134
TOTAL STUDENT BODY	24,933

Utah Counties

Beaver	28
Box Elder	75
Cache	155
Carbon	81
Daggett	----
Davis	428
Duchesne	120
Emery	49
Garfield	32
Grand	25
Iron	59
Juab	47
Kane	32
Millard	140
Morgan	15
Piute	10
Rich	9
Salt Lake	2,080
San Juan	93
Sanpete	139
Sevier	133
Summit	72
Tooele	152
Uintah	122
Utah	4,330
Wasatch	98
Washington	98
Wayne	20
Weber	293
Unidentified	12
TOTAL	8,947

REGISTRATION THROUGH THE DIVISION OF CONTINUING EDUCATION
September 1, 1966 - August 31, 1967

	Credit Courses		Noncredit Courses		Totals	
Academic College	**Enroll-ments**	***F.T.E.S.**	**Enroll-ments**	***F.T.E.S.**	**Enroll-ments**	***F.T.E.S.**
Biol. & Agri. Sciences	1,199	102.8	561	21.9	1,760	124.7
Business	1,614	153.1	636	35.1	2,250	188.2
Education	3,744	299.3	914	37.5	4,658	336.8
Family Living	872	77.4	6,993	230.7	7,865	308.1
Fine Arts & Commun.	2,501	183.2	3,948	226.5	6,449	409.7
General College	447	15.2	645	31.0	1,092	46.2
Humanities	3,770	371.8	3,480	59.3	7,250	431.1
Industrial & Tech. Ed	781	64.5	753	95.5	1,534	160.0
Library Science	147	11.5	----	----	147	11.5
Nursing	14	2.6	250	21.3	264	23.9
Physical & Engr. Sciences	3,172	321.9	854	73.8	4,026	395.7
Physical Education	2,452	111.3	8,741	537.5	11,193	648.8
Religious Instruction	3,945	269.0	18,483	275.9	22,428	544.9
Social Sciences	4,180	378.9	338	8.5	4,518	387.4
Unclassified	----	----	19,642	881.7	19,642	881.7
TOTAL	28,838	2,362.5	66,238	2,536.2	95,076	4,898.7

*Full-Time Equivalent Students.

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